

26348 Camborne YPC - General Works (2016)

28 July 2016

Table of Contents

Title	Page
C	Existing site/buildings/services
C20	Demolition
C90	Alterations - spot items
G	Structural/Carcassing metal/timber
G20	Carpentry/ timber framing/ first fixing
K	Linings/Sheathing/Dry partitioning
K10	Plasterboard dry linings/ partitions/ ceilings
K30	Panel partitions
K40	Demountable suspended ceilings
L	Windows/Doors/Stairs
L10	Windows/ Rooflights/ Screens/ Louvres
L20	Doors/ shutters/ hatches
L40	General glazing
M	Surface finishes
M40	Stone/ concrete/ quarry/ ceramic tiling/ mosaic
M50	Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting
M60	Painting/clear finishing
N	Furniture/Equipment
N10	General fixtures/ furnishings/ equipment
N11	Domestic kitchen fittings, furnishings and equipment
N13	Sanitary appliances and fittings
N14	General internal signage systems
N15	Internal fire and safety signage systems
P	Building fabric sundries

P10	Sundry insulation/ proofing work
P12	Fire stopping systems
P20	Unframed isolated trims/ skirtings/ sundry items
P21	Door/ window ironmongery
Q	Paving/Planting/Fencing/Site furniture
Q10	Kerbs/ edgings/ channels/ paving accessories
Q20	Granular sub-bases to roads/ pavings
Q25	Slab/ brick/ sett/ cobble pavings
Q40	Fencing
Q50	Site/ street furniture/ equipment
R	Disposal systems
R11	Above ground foul drainage systems
Z	Building fabric reference specification
Z01	Timber procurement
Z02	Variant specification for timber from a sustainable source
Z12	Preservative/ fire retardant treatment
Z20	Fixings and adhesives
Z22	Sealants

C **Existing site/buildings/services**

**C20
Demolition**

Section Revision History

No.	Purpose
0	TENDER

11th Mar 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

C20 Demolition

To be read with Preliminaries/General conditions

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.
 - Extent: As drawings .
 - 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.
 - Special requirements:
 - Details of services supplied by the Statutory Authority;
 - Site waste management plan development and proposals; and
 - Structural calculations in support of method statements .
- Format of report: Written .

120 EXTENT OF DECONSTRUCTION/ DEMOLITION

- General: Subject to retention requirements specified elsewhere, deconstruct/ demolish structures down to levels indicated on drawings.

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:
 - Trees noted on drawings; protect in accordance with BS 5837
 - Walls as indicated on drawings.

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.

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.
- Other requirements: None.

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: As drawings.
- 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 in: locations as identified in:
Asbestos Survey Report - Refer to Pre-Construction Information.
- Removal: By contractor licensed by the Health and Safety Executive, and prior to other works starting in these locations.

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.

450 SITE CONDITION AT COMPLETION

- Debris: Clear away and leave the site in a tidy condition.
- Other requirements:
 - None at present.

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.

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.

521 RECYCLED MATERIALS

- Proposals submitted should be considered only as substitute products described in Main Contract Preliminaries section.
Informative: If site-won materials are to be reused in new build, then resources (including time) should be allowed for compliance with the Construction Products Directive where the materials are within the scope of the Building Regulations. Materials covered by a European Standard (BS EN) will receive CE certification and marking by a notified body (e.g. BRE); materials not covered by a European Standard may be submitted for a European Technical Approval from a notified body. Use care when reusing elements with lead-based coatings, and highlight their presence in any health and safety file and maintenance log.
Although reuse and recycling is often considered for large scale projects, especially within site waste management plans, much can be done on smaller schemes through collaboration with waste chain operatives e.g. use of designated skips for given materials, or use of subdivided skips for small-scale operations or where space is at a premium.

C90
Alterations - spot items

Section Revision History

No.	Purpose	
0	TENDER	10th Mar 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

C90 Alterations - spot items

GENERAL

110 DESCRIPTIONS

- Location of spot item descriptions: as drawings.

120 EMPLOYER'S PROPERTY

- Components and materials arising from alterations that are to remain the property of the Employer: None.
 - Protection: Maintain until items listed above are removed by the Employer or reused in the Works, or until the end of the Contract.
- Special requirements: None.

130 RECYCLED MATERIALS

- Materials arising from alterations: May 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.

G **Structural/Carcassing metal/timber**

G20
Carpentry/ timber framing/ first fixing
Revision 1

Section Revision History

No.	Purpose	
0	TENDER	11th Mar 2016
1	TENDER	18th Mar 2016

Clauses amended in Revision 1

No.	Clause	
310	STRUCTURAL PLYWOOD	Deleted
550	EXPOSED TIMBER	Deleted
780	WALL PLATES	Deleted
784	JOISTS GENERALLY	Deleted
786	JOISTS ON HANGERS	Deleted
790	STANDARD JOIST HANGERS	Deleted
795	TRIMMING OPENINGS	Deleted
820	VERTICAL RESTRAINT STRAPS	Deleted
830	LATERAL RESTRAINT STRAPS	Deleted
850	INSPECTION GENERALLY	Deleted

G20 Carpentry/ timber framing/ first fixing

To be read with Preliminaries/ General conditions.

GENERAL

105 TIMBER PROCUREMENT

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

150 STRENGTH GRADING OF TIMBER

- Grader: A company currently registered under a third party quality assurance scheme operated by a certification body approved by the UK Timber Grading Committee.

160 GRADING AND MARKING OF SOFTWOOD

- Timber of a target/ finished thickness less than 100 mm and not specified for wet exposure: Graded at an average moisture content not exceeding 20% with no reading being in excess of 24% and clearly marked as 'DRY' or 'KD' (kiln dried).
- Timber graded undried (green) and specified for installation at higher moisture contents: Clearly marked as 'WET' or 'GRN'.
- Structural timber members cut from large graded sections: Regraded to approval and marked accordingly.

PRODUCTS

210 STRUCTURAL SOFTWOOD (GRADED DIRECT TO STRENGTH CLASS)FOR STRUCTURAL USE GENERALLY

- Grading standard: To BS 4978, BS EN 14081-1, or other national equivalent and so marked.
- Strength class to BS EN 338: C16 or C24 to Structural Engineers details.
- Treatment:
 - Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C8.
Design service life: 40 years.
 - Fire retardant treatment: Fire retardant impregnation to NBS section Z12 and Wood Protection Association Commodity Specification FR3, Type HR.

270 UNGRADED SOFTWOOD FOR INTERNAL NONSTRUCTURAL USE

- Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
- Surface finish: Sawn generally, regularized for wall battens.
- Treatment:
 - Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C8.
 - Design service life: 40 years.
 - Fire retardant treatment: Fire retardant impregnation to NBS section Z12 and Wood Protection Association Commodity Specification FR3, Type HR.

309 PLYWOOD

- Structural/Non-Structural Plywood - Any timber treatment to be omitted to avoid delaminating of the panels. Plywood panels shall be WBP quality.

311 NON-STRUCTURAL PLYWOOD GENERALLY

- Standard: To an approved national standard.
- Thickness: As detailed on drawings.
- Appearance class to BS EN 635: I/II.
- Use class to BS EN 335:
 - " Use class 1 for use in dry conditions;
 - " Use class 2 where there is a risk of wetting or humid conditions;
 - " Use class 3 where the moisture content may be above 20%;
 - " Sub class 3.1 where plywood will not remain wet for long periods;
 - " Sub class 3.2 where plywood will remain wet for long periods;
 - " Use class 4 where the moisture content is permanently over 20%; and
 - " Use class 5 for use in salt waters where the moisture content is permanently over 20%.
- Bonding quality to BS EN 314-2:
 - " Class 1 – Dry conditions, appropriate for normal interior climates.
 - " Class 2 – Humid conditions, appropriate for interior situations with humidity higher than class 1 levels, and for protected exterior applications.
 - " Class 3 – Exterior conditions, appropriate for exposure to weather for sustained periods.
- Finish: Unsanded.
- Edges: Square.
- Treatment:
 - Preservative treatment: None required.
 - Design service life: Not applicable.
 - Fire retardant treatment: None required.

WORKMANSHIP GENERALLY

401 CROSS SECTION DIMENSIONS OF STRUCTURAL SOFTWOOD AND HARDWOOD

- Dimensions: Dimensions in this specification and shown on drawings are target sizes as defined in BS EN 336.
- Tolerances: The tolerance indicators (T1) and (T2) specify the maximum permitted deviations from target sizes as stated in BS EN 336, clause 4.3:
 - Tolerance class 1 (T1) for sawn surfaces.
 - Tolerance class 2 (T2) for further processed surfaces.

402 CROSS SECTION DIMENSIONS OF NONSTRUCTURAL SOFTWOOD

- Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
- Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1, clause 6 for sawn sections.

420 WARPING OF TIMBER

- Bow, spring, twist and cup: Not greater than the limits set down in BS 4978 or BS EN 14081-1 for softwood, or BS 5756 for hardwood.

430 SELECTION AND USE OF TIMBER

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

435 NOTCHES, HOLES AND JOINTS IN TIMBER

- Notches and holes:
 - General: Avoid if possible.
 - Sizes: Minimum needed to accommodate services.
 - Position: Do not locate near knots or other defects.
 - In same joist: Minimum 100 mm apart horizontally.
 - Notches in joists:
 - Position: Locate at top. Form by sawing down to a drilled hole.
 - Depth (maximum): 0.15 x joist depth.
 - Distance from supports: Between 0.1 and 0.2 x span.
 - Holes in joists:
 - Position: Locate on neutral axis.
 - Diameter (maximum): 0.25 x joist depth.
 - Centres (minimum): 3 x diameter of largest hole.
 - Distance from supports: Between 0.25 and 0.4 of span.
 - Notches in roof rafters, struts and truss members: Not permitted.
 - Holes in struts and columns: Locate on neutral axis.
 - Diameter (maximum): 0.25 x minimum width of member.
 - Centres (minimum): 3 x diameter of largest hole.
 - Distance from ends: Between 0.25 and 0.4 of span.
- Scarf joints, finger joints and splice plates: Do not use without approval.

440 PROCESSING TREATED TIMBER

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

450 MOISTURE CONTENT

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

451 MOISTURE CONTENT TESTING

- Procedure: When instructed, test timber sections with an approved electrical moisture meter.
- Test sample: Test 5% but not less than 10 lengths of each cross-section in the centre of the length.
- Test results: 90% of values obtained to be within the specified range. Provide records of all tests.

510 PROTECTION

- Generally: Keep timber dry and do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.
- Timber and components: Store under cover, clear of the ground and with good ventilation. Support on regularly spaced, level bearers on a dry, firm base. Open pile to ensure free movement of air through the stack.
- Trussed rafters: Keep vertical during handling and storage.

520 EXPOSED END GRAIN PROTECTION

- Components: Seal exposed end grain of the following before delivery to site:
All structural timber.
- Sealer: Clear end grain sealer.

530 PAINTED FINISHES

- Structural timber to be painted: Primed as specified before delivery to site.

540 CLEAR FINISHES

- Structural timber to be clear finished: Keep clean and apply first coat of specified finish before delivery to site.

JOINTING TIMBER

570 JOINTING/FIXING GENERALLY

- Generally: Where not specified precisely, select methods of jointing and fixing and types, sizes and spacings of fasteners in compliance with section Z20.

580 FRAMING ANCHORS

- Manufacturer: Contractors choice.
 - Product reference: -.
- Material/ finish: Galvanized low carbon steel.
- Fasteners: Galvanized or sherardized square twist nails.
 - Size: Not less than size recommended by anchor manufacturer.
- Fixing: Secure using not less than the number of nails recommended by anchor manufacturer.

630 BOLTED JOINTS

- Bolt spacings (minimum): To BS EN 1995-1-1, section 8.5.
- Holes for bolts: Located accurately and drilled to diameters as close as practical to the nominal bolt diameter and not more than 2 mm larger.
- Washers: Placed under bolt heads and nuts that would otherwise bear directly on timber. Use spring washers in locations which will be hidden or inaccessible in the completed building.
- Bolt tightening: So that washers just bite the surface of the timber. Ensure that at least one complete thread protrudes from the nut.
 - Checking: At agreed regular intervals up to Completion. Tighten as necessary.

670 ANTICORROSION FINISHES FOR FASTENERS

- Galvanizing: To BS 7371-6, with internal threads tapped and lightly oiled following treatment.
- Sherardizing: To BS 7371-8, Class 1.
- Zinc plating: To BS EN ISO 4042 and passivated.

ERECTION AND INSTALLATION

710 PROPOSALS FOR ERECTING STRUCTURAL TIMBER

- Proposals: Submit details of:
 - Method and sequence of erection.
 - Type of craneage.
 - Temporary guys and bracing proposed for use during erection.
- Latest date for submission: 10 days before erection starts.

740 PRE-ERECTION CHECKING

- Timing: Not less than 10 days before proposed erection start date.
- Checklist:
 - Foundations and other structures to which timber structure will be attached: Check for accuracy of setting out.
 - Holding down bolts: Check for position, protruding length, condition and slackness.
- Inaccuracies and defects: Report without delay.
- Erection: Obtain permission to commence.

750 MODIFICATIONS/REPAIRS

- Defects due to detailing or fabrication errors: Report without delay.
- Methods of rectification: Obtain approval of proposals before starting modification or remedial work.
- Defective/damaged components: Timber members/ components may be rejected if the nature and/or number of defects would result in an excessive amount of site repair.

760 TEMPORARY BRACING

- Provision: As necessary to maintain structural timber components in position and to ensure complete stability during construction.

770 ADDITIONAL SUPPORTS

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

775 BEARINGS

- Timber surfaces which are to transmit loads: Finished to ensure close contact over the whole of the designed bearing area.
- Packings: Where provided, to cover the whole of the designed bearing area.
 - Crushing strength: Not less than timber being supported.
 - In external or inaccessible locations: Rot and corrosion proof.

K **Linings/Sheathing/Dry partitioning**

K10
Plasterboard dry linings/ partitions/ ceilings
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	14th Mar 2016
1	TENDER	16th Mar 2016
2	TENDER	18th Mar 2016
3	TENDER	30th Mar 2016
4	TENDER	19th Apr 2016

Clauses amended in Revision 4

No.	Clause	
125	METAL STUD PARTITION SYSTEM	Added
126A	METAL STUD PARTITION SYSTEM	Deleted
230	CEILING LINING ON TIMBER	Added
230A	LINING BOARD	Added

K10 Plasterboard dry linings/ partitions/ ceilings

To be read with Preliminaries/ General conditions.

TYPES OF DRY LINING

125 METAL STUD PARTITION SYSTEM GENERALLY

- Manufacturer: British Gypsum
 - Web: www.british-gypsum.com
 - Email: bgtechnical.enquiries@bpb.com.
 - Product reference: GypWall™ Classic

A light, non-loadbearing, internal wall system suitable for all types of buildings, including residential, commercial and healthcare.

The system consists of tapered or square edge Gyproc plasterboards screw fixed to metal sections. It can be specified to achieve the levels of fire resistance, sound insulation, impact resistance and stability required in normal types of buildings. Not suitable for use in areas subjected to continuous damp or humid conditions. Specify MR (moisture resistant) boards in intermittent wet areas.
- Studs:
 - Type: 70mm Gypframe 70 S 50 'C' studs.
 - Centres: 600mm.
- Head condition: Gypframe 50 C 50 Floor and Ceiling Channels, fixed to underside of ceiling joists..
 - Deflection allowance: 15mm.
- Insulation: Isover APR 1200 (where indicated on layout plans).
 - Recycled content: Not applicable.
 - Thickness: 25mm.
- Resilient layer: Not required.
- Linings: 1 x 12.5mm Gyproc WallBoard to each side OR 1 x 12.5mm Gyproc Moisture Resistant to appropriate side where required.
- Finishing: Skim coat plaster as clause 681.
 - Primer/ Sealer: 1 coat of Gyproc Drywall Primer.
 - Accessories: Rigid beads/stops as clause 692.
- Other requirements: Fire stopping around services as Section P12.

230 CEILING LINING ON TIMBER GENERALLY

- Background: Joists to Structural Engineers details..
- Metal resilient (acoustic) bars: Gypframe RB1 resilient bars, fixed to underside of joists at 450mm centres.
- Linings:
 - Manufacturer:
British Gypsum
 - Web: www.britishgypsum.com
 - Email: bgtechnical.enquiries@bpb.com
 - Product reference: 2 x 12.5mm Gyproc FireLine - staggered joints.
 - Fixings: Gyproc Drywall Screws
 - Insulation: 100mm Isowool APR 1200.
- Finishing: Skim coat plaster finish as clause 681.
 - Primer/ Sealer: 1 coat of Gyproc Drywall Primer.
 - Accessories: Rigid beads/stops as clause 692.
- Other requirements:
 - Taped joints.
 - Sealant at perimeter to maintain airtightness.
 - 60 minutes fire resistance.

230A LINING BOARD - TO PLANT ROOM AREAS GENERALLY

- Manufacturer: Promat UK Ltd.
 - Web: www.promat.co.uk.
 - Email: marketinguk@promat.co.uk.
 - Product reference: SUPALUX®
- SUPALUX® is a non-combustible calcium silicate board reinforced with selected fibres and fillers. SUPALUX® is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions.
- Thickness: 12 mm.
- Size: 2400 mm x 1220 mm.
- Fire performance:
 - Class 1 Surface Spread of Flame to BS 476-7: 1987.
 - Class 0 Surface to Building Regulations Approved Document B.
- Material: Calcium silicate.
- Finish: SUPALUX® is off-white in colour and has a smooth finish on one face with a sanded reverse face.
- Colour: Off-white.
- Edge profile: Square.
- Close butt joint treatment: All transverse joints to have 80 mm wide x 9 mm thick SUPALUX® cover strip behind the joint, fixed with 19 mm x 4.2 mm steel screws at 300 mm centres. Joints to multi layer board constructions to be staggered..
- Other requirements: Fill joint and screw holes with Promat Moisture Resistant Joint Filler and sand to a smooth flat surface.

GENERAL/ PREPARATION

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

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

INSTALLATION

435 DRY LININGS GENERALLY

- General: Use fixing, jointing, sealing and finishing materials, components and installation methods recommended by board manufacturer.
- Cutting plasterboards: 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.

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.

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 plasterboard: After sealing, fill with jointing compound.

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

590 FIXING PLASTERBOARD 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.

595 DEFLECTION HEADS

- Fixing boards: Do not fix to head channels.

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 PLASTERBOARDS

- 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.
 - Web: www.british-gypsum.com.
 - Email: bgtechnical.enquiries@bpb.com.
 - Tel: +44 (0)870 545 6123.
 - Fax: +44 (0)870 545 6356.
 - Address: East Leake, Loughborough. LE12 6HX
- Product reference: Thistle Multi Finish.
- 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.

**K30
Panel partitions**

K30 Panel partitions

To be read with Preliminaries/ General conditions.

TIMBER REQUIREMENTS

105 TIMBER PROCUREMENT

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

TYPES OF PARTITION

130A RELOCATABLE PARTITION SYSTEM

- Manufacturer: Komfort.
 - Web: www.komfort.com.
 - Email: general@komfort.com.
 - Product reference: Kameo 75 partition system
- Location: as indicated on drawings 325-G-001 & 002.
- Layout: as indicated on drawings 325-G-001 & 002.
- Performance of completed system:
 - Fire resistance to BS 476-22: 30 minutes insulation.
 - Fire propagation to BS 476-6: Class 0 (England / Wales / N. Ireland).
 - Spread of flame, to BS 476-7: Class 1.
 - Acoustic insulation to BS EN ISO 140-3: up to 41dB (Rw).
- Partition height: as indicated on drawings 325-G-001 & 002.
- Deflection allowance: Required.
- Panel type: glazed.
- Solid panels:
 - Finish/ Colour: White.
 - Joint treatment: Taped and filled.
- Glazed panels:
 - Glass: Komfort 30 minute fire/ safety glass, 6 mm.
 - Glazing trim finish/ colour: White.
 - Manifestation: N/a.
- Junctions: As standard
- Framework finish:
 - Type: Komfort standard finish.
 - Colour: Velocity White.
 - Skirtings: Wood.
 - Colour: Grey.
- Accessories: None.
- Installation: Frame installation and glazing to be carried out by Komfort Workspace approved installer.

GENERALLY

310 COMPLIANCE WITH PERFORMANCE REQUIREMENTS

- UKAS accredited laboratory test/ assessment reports: Submit for the following:
 - Fire resistance including deflection heads, doorsets and over panels;
 - Sound insulation; and
 - Structural performance.
- Materials, components and details: In accordance with test/ assessment reports. Give notice if discrepancies arise.

320 SAMPLES

- Representative samples: Before placing orders, submit the following: colours.
- Delivered materials/ products: To match samples.

340 ENVIRONMENTAL CONDITIONS

- General: Before, during and after installation, maintain temperature and humidity levels similar to those that will prevail after building is occupied.

375 NEW WET LAID BASES

- Dpcs: Install under full width of partitions.
 - Material: Bituminous sheet or plastics.

380 COORDINATION WITH OTHERS

- Fire/ Sound barriers within floor and ceiling voids: Align accurately with partitions.
- Service runs and outlets: Check designated routes. Do not obstruct outlets and access panels.

INSTALLATION

410 WORKMANSHIP GENERALLY

- Setting out: Plumb, true to line and level, and free from bowing, undulations and other planar distortions.
- Joints: Align accurately with no lipping.
- Stability: Fix securely, with additional supports where necessary at perimeters.
- Moisture and thermal movement of framing/ panels: Make adequate allowance.

425 INSTALLING RELOCATABLE PARTITIONS

- Site dimensions: Check before installation. Give notice of discrepancies.
- Perimeter abutments: Accommodate deviations whilst maintaining partition system performance. Form make up/ closer pieces accurately around projections and features.
- Customization: Do not cut or otherwise alter framing/ panels on site, except where shown on drawings.
- Intermediate joints in exposed frame members and trims: Keep to a minimum.
- Electrical continuity and earth bonding: To BS 7671 (The IEE Wiring Regulations).

470 PERIMETER SEALS

- Sealant material: A type recommended by partition/ panel manufacturer.
- Application: Continuously, to clean, dry, dust-free surfaces, leaving no gaps. In accordance with the sealant manufacturer's instructions.

475 FIRE STOPPING

- General: Seal gaps at junctions of partitions with perimeter abutments, cavity barriers, service penetrations etc, to prevent penetration of smoke and flame.
- Materials: Non-combustible or intumescent.

480 GLAZING FOR RELOCATABLE PARTITIONS

- Glass standards: To BS 952 and relevant parts of:
 - BS EN 572 for basic soda lime silicate glass.
 - BS EN 1096 for coated glass.
 - BS EN 1748 for borosilicate glass.
 - BS EN 1863 for heat strengthened glass.
 - BS EN 12150 for thermally toughened glass.
 - BS EN ISO 12543 for laminated glass.
- Insulated glass unit standard: To relevant parts of BS EN 1279.
- Pane size: Within ± 2 mm of nominal size.
- Pane condition: Clean and free from obvious scratches, bubbles, rippling, dimples and other defects.
- Glazing standard: To relevant parts of BS 6262.
- Preglazed panes: To be capable of being reglazed in situ.

490 IRONMONGERY FOR RELOCATABLE PARTITIONS

- Frames and doors: Prepare accurately to accept ironmongery and associated fixings.
- Ironmongery installation: Accurate and without damage to components or surrounding surfaces.
 - Fasteners: Supplied by partition/ ironmongery manufacturer. Finish to match component.
- Completion: Check, adjust and lubricate as necessary for correct operation.

K40
Demountable suspended ceilings
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	11th Mar 2016
1	TENDER	18th Mar 2016
4	TENDER	14th Jun 2016

Clauses amended in Revision 4

No.	Clause	
105	SUSPENDED CEILING SYSTEM	Deleted
105A	SUSPENDED CEILING SYSTEM	Deleted
105B	SUSPENDED CEILING SYSTEM	Added

K40 Demountable suspended ceilings

To be read with Preliminaries/General conditions.

TYPES OF CEILING SYSTEM

105B SUSPENDED CEILING SYSTEMTYPE 1 - FOR CHANGING PLACE

- Grid suspension: 25 x 25 mm angled ridged suspension hangers shall be used (wire hangers are not acceptable).
Tile clipping: NOT REQUIRED .
- Manufacturer: SaintGobain Ecophon Ltd. OR EQUAL AND APPROVED. Old Brick Kiln, Ramsdell, Tadley RG26 5PP.
 - Tel: +44 (0)1256 850977
 - Fax: +44 (0)1256 850600
 - Web: www.ecophon.co.uk.
 - Email: marketing@ecophon.co.uk.
 - Product reference: Hygiene Performance A
- 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 and achieve the performance specified as recommended by the suspended ceiling/membrane manufacturer. Installed with a minimum 110mm depth of system.
- Grid type: Ecophon Connect Hygiene C3 grid system with adjustable hangers/wire
- Hangers: rigid hangers
- Protective finish to suspension systems: normal conditions
- Perimeter trims: Connect Hygiene C3 Channel Trim
 - Soffit height above finished floor level: As detailed on reflected ceiling plans
- Moisture resistance: Tested in accordance with ISO 4611 and can withstand a permanent ambient relative humidity of up to 95% at 30°C without sagging, warping or delaminating. A higher temperature/ humidity is permissible during washing
- Tile:
 - Size: 600 x 600 mm .
 - Thickness: 20 mm.
 - Edges: Square .
 - Colour: White 010
- Grid: Interlocking Connect Hygiene C3 grid system with adjustable hangers/ wire .
 - Trim: Connect channel .
- Accessories: Connect Edge tool E 0221 and edge sealant.
- Performance data: Weight (including suspension grid system) Approximately 3–4 kg/m²
- Fire safety: Complies with BS EN 13501-1, Class A2-s1, d0.
- Sound absorption: 200 mm deep system: In accordance with EN ISO 11654, Class A.
- Cleaning: The ceiling system can withstand daily dusting, vacuum cleaning, weekly wet cleaning and occasional high-pressure washing with water temperature max. 70 °C. It can withstand the use of common disinfecting chemicals.
- Demounting depth (minimum): 150 mm: 20 mm tile.
Overall depth of system (minimum): 150 mm.
Penetrations: Seal with 0041 Joint sealing compound.
- Access: Fully demountable from above.
- Installation: When installed in humid environments, or in premises where surfaces require regular washing, installation accessories with extra anti-corrosion treatment are recommended.

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.

255 EDGE BATTENSTO SUSPENDED CEILINGS - WHERE REQUIRED

- Manufacturer: -.
 - Product reference: -.
- Material: Planed softwood to BS EN 942, class J10; moisture content at time of fixing: 15% \pm 2%.
 - Finished size: 21 x 44 mm.
 - Finish (apply before ceiling grid is installed): Prime, undercoat and final coat of matt white to visible surfaces.

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: Refer to drawings.
 - Suitability to receive specified fixings: Evaluate and confirm.
- Fixing generally: In accordance with BS EN 13964.
- Fixing to:
 - Concrete: Drill and insert suitable expanding anchors.
 - Aerated concrete: Fix through from the top of concrete units and provide a system of primary support channels.
 - Structural steel: Drill, or use suitable proprietary clips/ adaptors.
 - Metal roof decking: Fix to sides of liner tray corrugations.
 - Timber: Fix to side of joists at least 50 mm from bottom edge. If ceiling system is intended for fire protection, fix into top third of joists.
- 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.
- Spacings: As recommended by suspended ceiling system manufacturer.

330 INSTALLING TIMBER EDGE BATTENS

- Fixing: Firmly to perimeter wall or other building structure.
 - Fasteners: Plugged and screwed to walls.
- Fixing centres (maximum): 600 mm.

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.
 - Fasteners: suitable for use with suspended ceiling system.
 - Fixing centres: 450 mm.

340 EXPOSED GRIDS

- Grid fixings: as recommended by ceiling system manufacturer.
- 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.

375 BOARD CEILING SYSTEMS

- Cut boards: Neat and accurate.
- Fixing to grid:
 - Board edges: Fully support. Screw to grid members. Set heads of screws below surface of boards and fill flush with surface.
 - Boards applied in two or more layers: Stagger joints.
- Movement joints: Provide as appropriate for the area of ceiling system and/ or to coincide with movement joints in surrounding structure.

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: Independent.
 - Independently supported luminaires: Suspension adjusted to line and level of ceiling.
 - Ceiling supported luminaires: Modifications and/ or extra support required: To each luminaire.
- 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: Required.
 - 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: 20 m.
- Fixing: Secure barrier at head and base using proprietary angle support system.
 - 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: Not required.

COMPLETION

505 TOOLS

- Access tools: At Completion, supply one set of the following: Appropriate access tools .

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.

L **Windows/Doors/Stairs**

L10

Windows/ Rooflights/ Screens/ Louvres

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

L10 Windows/ Rooflights/ Screens/ Louvres

To be read with Preliminaries/ General conditions.

GENERAL

110 EVIDENCE OF PERFORMANCE

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

115 TIMBER PROCUREMENT

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

120 SITE DIMENSIONS

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
- Designated items:
 - Windows
 - Doors
 - Louvres
 - Rooflights/Natural Ventilators
- Additional Requirements: Provide working drawings for comment prior to fabrication.

140 CONTROL SAMPLES

- Procedure:
 - Finalise 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 manufacturer of the remaining quantity.
- Designated items:
 - Window and Hardware to agreed sizes.

160 POTENTIAL FOR NATURAL VENTILATION

- Submit design plan and elevation drawings, and calculations confirming the following:
 - Types of windows/ ventilators and total openable areas
 - Types and degree of user-controls.

PRODUCTS

360 PVC-U WINDOWS

- Standard:
 - Manufacture: To BS 7412.
Manufacturer: A firm currently registered under a quality assurance scheme operated by a certification and inspection body accredited by the United Kingdom Accreditation Service (UKAS).
 - Profile: To BS EN 12608.
- Colour/ Texture: White - To approved.
- Exposure category to BS 6375-1/ Design wind load: Not known.
- Reinforcement: Austenitic stainless steel.
- Thermal performance (U-value maximum): 1.2 W/m²K.
- Glazing details: Double glazed with obscure glazed units to WC and privacy areas.
 - Beading: Internal.
- Ironmongery/ Accessories: To be confirmed.
- Fixing: Through frame fixing.

510 GLAZED WOOD SCREENS

- Location: As drawings.
- Timber: Generally to BS EN 942.
 - Species: Softwood as table NA.1.
 - Appearance class: J2.
 - Moisture content on delivery: 12-16%.
- Panels: Not applicable.
- Assembly adhesive: PVAC to BS EN 204, Class D4 .
- Joinery workmanship: As section Z10.
- Finish as delivered: Prepared and primed as section M60.
- Thermal performance: Not required.
- Fire performance: Not required.
- Glazing details: Hardwood beads fixed with brass cups and screws.
- Special features/ Other requirements: None.
- Fixing: Screw fixed and pelleted as clause 780.

EXECUTION

710 PROTECTION OF COMPONENTS

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

730 PRIMING/ SEALING

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

740 CORROSION PROTECTION

- Surfaces to be protected: Aluminium alloy components in contact with preservative treated timber.
- 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.

755 PVC-U WINDOW INSTALLATION

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

760 REPLACEMENT WINDOW INSTALLATION

- Standard: To BS 8213-4.

765 WINDOW INSTALLATION GENERALLY

- Installation: Into prepared openings.
- Gap between frame edge and surrounding construction:
 - Minimum: 6 mm.
 - Maximum: 6 mm
- Fixing: As Section Z20.
 - Other requirements: Window framing to be securely fixed direct to the building structure, no further than 150mm from each corner and at centres not exceeding 600mm, as laid down in procedures issued by the systems company.
- 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.

780 FIXING OF WOOD FRAMES

- Standard: As section Z20.
- Fasteners: Stainless steel wood screws .
 - Spacing: When not predrilled or specified otherwise, position fasteners not more than 150 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 450 mm centres.

783 FIXING OF PVC-U FRAMES

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

790 FIRE RESISTING FRAMES

- Gap between back of frame and reveal: Completely fill with tightly packed Rockwool mineral wool.

Sealant:

Manufacturer:

Rockwool Ltd.

- Web: www.rockwool.co.uk.

- Email: info@rockwool.co.uk.

- Product reference: Rockwool Firepro Acoustic Intumescent Sealant.

Colour: White

Acoustic performance: Weighted Sound Reduction Index (Rw): Up to 57 dB.

Curing time: Approximately 15 minutes tack free.

When cured, the sealant can be over-painted.

810 SEALANT JOINTS

- Sealant:
 - Manufacturer: Dow Corning Ltd.
 - Web: www.dowcorning.com.
 - Email: marie.elliott@dowcorning.com .
- Product reference: Firestop 791 Weatherproofing Silicone Sealant.
- Colour: Clear.
- Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

815 SEALANT JOINTS

- Sealant:
 - Manufacturer: Rockwool Ltd.
 - Web: www.rockwool.co.uk
 - Email: info@rockwool.co.uk .
- Product reference: Rockwool Firepro Acoustic Intumescent Sealant.
- Colour: White
- Acoustic performance: Weighted Sound Reduction Index (Rw): up to 57dB..
- Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 IRONMONGERY

- Fixing: In accordance with any third party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
- Checking/ Adjusting/ Lubricating: Carry out at Completion and ensure correct functioning.

821 CLEANING AND OPERATIONAL CHECK

- Upon completion of the installation, all glazing, frames, handles and all other surfaces are to be cleaned with a mild detergent. All components are to be checked for security of fixings, adequacy of clearances, adjustment of hinges, locks etc. as may be necessary to leave the window units in good working order.

L20
Doors/ shutters/ hatches
Revision 5

Section Revision History

No.	Purpose	
0	TENDER	15th Mar 2016
1	TENDER	18th Mar 2016
4	TENDER	15th Apr 2016
5	TENDER	13th Jul 2016

Clauses amended in Revision 5

No.	Clause	
410	WOOD DOORSETS	Deleted
413	WOOD DOORSETS	Added
415	WOOD DOORSETS	Added
416	WOOD DOORSETS	Added

L20 Doors/ shutters/ hatches

To be read with Preliminaries/ General conditions.

GENERAL

110 EVIDENCE OF PERFORMANCE

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements. Refer to the following performance, product and workmanship clauses.

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: Forest Stewardship Council (FSA) or Programme for the Endorsement of Forest Certification (PEFC).
 - Other evidence: None.

114 DOOR PANELS

- Doors - All doors shall be solid core panels (for durability). All framing to doors shall be 44mm finish thickness (for stability and hinge fixing strength).

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.

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 door assemblies .

PRODUCTS

412 WOOD DOORSETS - PAINT GRADE - FD30

- Manufacturer: Bridgman IBC Ltd.
 - Web: www.bridgman-ibc.com.
 - Email: sales@bridgman-ibc.com.
 - Product reference: Heavy/ Severe Duty Fire Rated Doorsets

The Heavy/ Severe Duty range of doors are 30 minute/ 60 minute fire rated and consist of a flaxboard core 350 kg/m³ and 450 kg/m³, available in 44 mm and 54 mm thickness with 65 mm white wood framing all round (65 mm extra hardwood to the top of all FD60 doors).
- Fire rating: FD30.
Acoustic rating: Refer to schedules
Accessories: Refer to drawings and schedules.
- Door:
 - Thickness: 44 mm.
 - Facings: MDF
 - Lippings: Hardwood.
- Finish: Factory primed.
- Frame and architrave:
 - Wood species: Softwood.
 - Frame: PSE section with loose door stops - 32 mm up to 125 mm solid (one piece) with a 32 x 13 mm stop. For wall depths in excess of 125 mm a tongued extension piece is fitted to suit.
 - Architrave: Type 1.
 - Glazing/ Infill details: Refer to schedules.

Type: As L40:515.
- Accessories: As schedules
Ironmongery:
Hinges: Royd and Tucker Hi-Load H105 lift off hinges with 25 year guarantee
Refer to schedules for further details.
- Optional items: Factory mortising for locks.

413 WOOD DOORSETS - PAINT GRADE - NON-FIRE RATED

- Manufacturer: Bridgman IBC Ltd.
 - Web: www.bridgman-ibc.com.
 - Email: sales@bridgman-ibc.com.
 - Product reference: Heavy/ Severe Duty Non-Fire Doorsets

The Heavy/ Severe Duty range of doors are constructed from a solid laminate timber core, available in 44 mm and 54 mm thickness.
- Acoustic rating: Refer to schedules.
Accessories: Refer to drawings and schedules
Door:
 - Thickness: 44 mm.
 - Facings: MDF
 - Lippings: Hardwood.
 - Finish: Factory primed.
- Frame and architrave:
 - Wood species: Softwood.
 - Frame: PSE section with loose door stops - 32 mm up to 125 mm solid (one piece) with a 32 x 13 mm stop. For wall depths in excess of 125 mm a tongued extension piece is fitted to suit.
 - Architrave: Type 1.
 - Glazing/ Infill details: Refer to schedules.
Type: As L40:515.
- Accessories: As schedules
Ironmongery:
Hinges: Royde and Tucker Hi-Load H105 lift off hinges with 25 year guarantee
Refer to schedules for further details.
- Optional items: Factory mortising for locks.

415 WOOD DOORSETS - VENEERED - FD30

- Manufacturer: Bridgman IBC Ltd.
 - Web: www.bridgman-ibc.com.
 - Email: sales@bridgman-ibc.com.
 - Product reference: Heavy/ Severe Duty Fire Rated Doorsets

The Heavy/ Severe Duty range of doors are 30 minute/ 60 minute fire rated and consist of a flaxboard core 350 kg/m³ and 450 kg/m³, available in 44 mm and 54 mm thickness with 65 mm white wood framing all round (65 mm extra hardwood to the top of all FD60 doors).
- Fire rating: FD30
Acoustic rating: Refer to schedules
Accessories: Refer to drawings and schedules.
- Door:
 - Thickness: 44 mm.
 - Facings: Veneered
 - Lippings: Hardwood.
- Finish: Veneered.
- Frame and architrave:
 - Wood species: Softwood.
 - Frame: PSE section with loose door stops - 32 mm up to 125 mm solid (one piece) with a 32 x 13 mm stop. For wall depths in excess of 125 mm a tongued extension piece is fitted to suit.
 - Architrave: Type 1.
 - Glazing/ Infill details: Refer to schedules.

Type: As L40:515.
- Accessories: As schedules
Ironmongery:
Hinges: Royd and Tucker Hi-Load H105 lift off hinges with 25 year guarantee
Refer to schedules for further details.
- Optional items: Factory mortising for locks.

416 WOOD DOORSETS - VENEERED - NON-FIRE RATED

- Manufacturer: Bridgman IBC Ltd.
 - Web: www.bridgman-ibc.com.
 - Email: sales@bridgman-ibc.com.
 - Product reference: Heavy/ Severe Duty Non-Fire Doorsets

The Heavy/ Severe Duty range of doors are constructed from a solid laminate timber core, available in 44 mm and 54 mm thickness.
- Acoustic rating: Refer to schedules
Accessories: Refer to drawings and schedules
Door:
 - Thickness: 44 mm.
 - Facings: Veneered
 - Lippings: Hardwood.
 - Finish: Veneered.
- Frame and architrave:
 - Wood species: Softwood.
 - Frame: PSE section with loose door stops - 32 mm up to 125 mm solid (one piece) with a 32 x 13 mm stop. For wall depths in excess of 125 mm a tongued extension piece is fitted to suit.
 - Architrave: Type 1.
 - Glazing/ Infill details: Refer to schedules.

Type: As L40:515.
- Accessories: As schedules
Ironmongery:
Hinges: Royde and Tucker Hi-Load H105 lift off hinges with 25 year guarantee
Refer to schedules for further details.
- Optional items: Factory mortising for locks.

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.

740 CORROSION PROTECTION

- Surfaces to be protected: Aluminium or aluminium alloys in direct contact with concrete, mortar, plaster .
- Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape.
Timing of application: 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.

790 FIXING OF WOOD FRAMES

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

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

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

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

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

820A SEALANT JOINTS INTERNAL DOORS

- Sealant:
 - Manufacturer: Dow Corning Ltd.
 - Web: www.dowcorning.com.
 - Email: marie.elliott@dowcorning.com .Product reference: Firestop 400 intumescent acrylic sealant.
Usage: A one-part fire rated intumescent acrylic sealant designed for the internal perimeter pointing of fire rated door and window frames where the integrity of the fire walls or partitions needs to be maintained .
 - Colour: White .
 - Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

830 FIXING IRONMONGERY GENERALLY

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

840 FIXING IRONMONGERY TO FIRE RESISTING DOOR ASSEMBLIES

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

850 LOCATION OF HINGES

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

860 INSTALLATION OF EMERGENCY EXIT DEVICES

- Standard: Unless specified otherwise, install panic bolts/ latches in accordance with BS EN 1125.

L40
General glazing
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	14th Mar 2016
1	TENDER	18th Mar 2016
4	TENDER	19th Apr 2016

Clauses amended in Revision 4

No.	Clause	
630A	MANIFESTATION	Deleted
655	INSULATED GLASS UNITS (IGUS)	Deleted

L40 General glazing

To be read with Preliminaries/ General conditions.

GENERAL REQUIREMENTS

- 111 PREGLAZING
- Preglazing of components: Permitted.
 - Prevention of displacement: Submit details of precautions to be taken to protect glazing and compound/ seals during delivery and installation.
 - Defective/ displaced glazing/ compound/ seals: Reglaze components in situ.
- 150 WORKMANSHIP AND POSITIONING GENERALLY
- Glazing generally: In accordance with BS 6262 series.
 - Integrity: Glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
 - Dimensional tolerances: Panes/ sheets to be within ± 2 mm of specified dimensions.
 - Materials:
 - Compatibility: Glass/ plastics, surround materials, sealers, primers and paints/ clear finishes to be used together to be compatible. Avoid contact between glazing panes/ units and alkaline materials such as cement and lime.
 - Protection: Keep materials dry until fixed. Protect insulating glass units and plastics glazing sheets from the sun and other heat sources.
- 152 PREPARATION
- Surrounds, rebates, grooves and beads: Clean and prepare before installing glazing; ensure compliance with any certified installation requirements.
- 155 GLASS GENERALLY
- Standards: To BS 952 and relevant parts of:
 - BS EN 572 for basic soda lime silicate glass.
 - BS EN 1096 for coated glass.
 - BS EN 1748-1 for borosilicate glass.
 - BS EN 1748-2 for ceramic glass.
 - BS EN 1863 for heat strengthened soda lime silicate glass.
 - BS EN 12150 for thermally toughened soda lime silicate safety glass.
 - BS EN 12337 for chemically strengthened soda lime silicate glass.
 - BS EN 13024 for thermally toughened borosilicate safety glass.
 - BS EN ISO 12543 for laminated glass and laminated safety glass.
 - Panes/ sheets: Clean and free from obvious scratches, bubbles, cracks, rippling, dimples and other defects.
 - Edges: Generally undamaged. Shells and chips not more than 2 mm deep and extending not more than 5 mm across the surface are acceptable if ground out.
- 160 LINEAR PATTERNED/ WIRED GLASS
- Alignment: Vertical/ Horizontal as appropriate, and pattern matched across adjacent panes in close proximity.

165 HEAT SOAKING OF THERMALLY TOUGHENED GLASS

- Standard: To BS EN 14179.
 - Holding period (minimum): 2 hours.
 - Mean glass temperature: $290^{\circ} \pm 10^{\circ}\text{C}$.
- Certified evidence of treatment: Submit.
- Designated locations: As recommended by glazing manufacturer.

180 BEAD FIXING WITH PINS

- Pin spacing: Regular at maximum 150 mm centres, and within 50 mm of each corner.
- Exposed pin heads: Punched just below wood surface.

181 BEAD FIXING WITH SCREWS

- Screw spacing: Regular at maximum 225 mm centres, and within 75 mm of each corner.

TYPES OF GLAZING

370 BEAD FIXED INSULATING GLASS UNITS- TO ALL ALUMINIUM EXTERNAL WINDOWS AND DOORS

- IGU: As clause 655.
 - Perimeter taping: Do not use.
- Surround/ bead: Aluminium.
 - Preparation: Priming/ sealing not required.
 - Bead location: Inside.
 - Bead fixing: Proprietary clip fixing.
- Glazing system: Preformed gasket sections supplied by window manufacturer.
- Thermal performance (U-value maximum): Submit proposals.
- Glazing installation:
 - Insulating unit: Located centrally in surround using setting and location blocks.
 - Gaskets and beads: Installed as recommended by frame manufacturer.
 - Gasket fit at corners: Tight, without gaps.
 - Drainage and ventilation holes: Unobstructed.

515 FIRE RESISTANT CHANNEL GLAZING TO INTERNAL DOORS

- Fire resistance:
 - Standard: To BS EN 13501-2.
 - Rating: 30 minutes (E30).
- Pane material: Manufacturer:
 - Pilkington United Kingdom Ltd.
 - Web: www.pilkington.co.uk.
 - Email: pilkington@respond.uk.com.
 - Product reference: Pilkington Pyroclear® Fire-Resistant Glass.
- Thickness: 10 mm (nominal).
- Orientation: Not applicable.
- Frame/ Surround material: Hardwood frame.
- Beads:
 - Material: Hardwood.
 - Fixing: Stainless steel woodscrews.
- Fire resistant channel:
 - Manufacturer: Lorient Polyproducts Ltd.
 - Web: www.lorientuk.com.
 - Email: mktg@lorientuk.com.
 - Product reference: Lorient Fire Resistant Glazing System, System 36/10.
- Liner: Sodium silicate intumescent liner required on substrates of density less than 500 kg/m³.
- Timber glazing beads:
 - Type: 18.5 x 15 mm, Ref: LG1521 OR 21 x 15 mm, Ref: LG1520.
 - Finish: Oak.
- Channel dimensions: 17.5 x 17 mm, in 30 m coil, Ref: LG1717.
- Colour: Black.
- Timber glazing beads:
 - Fixing: Screwed using No. 8 x 45mm countersunk head screws at 200 mm nominal centres.
- Timber glazing beads:
 - For 44 mm thick doors or rebated screen frames – 18.5 x 15 mm (excluding rebate) rebated and chamfered (15°), Ref: LG1521.
 - For unrebated screen frames – 21 x 15 mm chamfered (15°), Ref: LG1520. CERTIFIRE Ref: CF202.
- Aperture lining: Intumescent sheet/ strip recommended for the purpose by channel manufacturer.
- Thermal performance (U-value maximum): Unrated.
- Installation: By a firm currently registered under a UKAS certified accreditation scheme for the installation of fire resistant glazing, in accordance with glazing manufacturer's recommendations.
- Certification: Submit test certification for system, including any framing, installation and maintenance requirements or restrictions.

516A FIRE RESISTANT CHANNEL GLAZING TO INTERNAL SCREENS

- Fire resistance:
 - Standard: To BS EN 13501-2.
 - Rating: 30 minutes (E30).
- Pane material: Manufacturer:
 - Pilkington United Kingdom Ltd.
 - Web: www.pilkington.co.uk.
 - Email: pilkington@respond.uk.com.
 - Product reference: Pilkington Pyroclear® Fire-Resistant Glass.Thickness: TO BE DETERMINED.
 - Orientation: Not applicable.
- Frame/ Surround material: Hardwood frame.
- Beads:
 - Material: Hardwood.
 - Fixing: Stainless steel woodscrews.
- Fire resistant channel:
 - Manufacturer: Lorient Polyproducts Ltd.
 - Web: www.lorientuk.com.
 - Email: mktg@lorientuk.com.
 - Product reference: Lorient Fire Resistant Glazing System.Liner: Sodium silicate intumescent liner required on substrates of density less than 500 kg/m³.
 - Timber glazing beads:
 - Type: TO BE DETERMINED.
 - Finish: Oak.Channel dimensions: TO BE DETERMINED.
Colour: Black.
Timber glazing beads:
 - Fixing: Screwed using No. 8 x 45mm countersunk head screws at 200 mm nominal centres.
 - Aperture lining: Intumescent sheet/ strip recommended for the purpose by channel manufacturer.
- Thermal performance (U-value maximum): Unrated.
- Installation: By a firm currently registered under a UKAS certified accreditation scheme for the installation of fire resistant glazing, in accordance with glazing manufacturer's recommendations.
- Certification: Submit test certification for system, including any framing, installation and maintenance requirements or restrictions.

550 GLASS MIRRORS GENERALLY

- Standard: To BS EN 1036.
 - BS EN 1036-2 characteristics: None relevant.
- Mirror material: Float glass, silvered to give maximum reflection, free from tarnishing, discoloration, scratches and other defects visible in the designed viewing conditions.
 - Thickness: 6 mm
 - Size: As denoted on drawings.
 - Backing: Silvered.
 - Edge treatment: Polished arris.
- Background: Plaster.
- Fixing method: Secret fix.
- Installation: Fixed accurately and securely without overtightening fasteners, to provide a flat surface giving a distortion free reflection.

610A FROSTED WINDOW FILM

- Manufacturer: The Window Film Company UK Ltd.
 - Web: www.windowfilm.co.uk.
 - Email: chesham@windowfilm.co.uk.
 - Product reference: Frostbrite® Window Film

Widely used and versatile window film which is opaque but allows high levels of natural light to pass through. It can also be computer cut or printed onto, making it ideal for privacy, glass decoration, corporate branding and glass manifestation.

Advantages:

- Enhance the functionality and appearance of glass.
- More cost effective than frosted glass.
- Light transmission of up to 80%.

Installation: This type of window film must be installed by The Window Film Company® to ensure that it complies with the highest possible installation standards to validate the warranty of the product.

Standards: Window film complies with BS 476-6 and -7, Class 0 – Surface Spread of Flame and Ignitability.

M **Surface finishes**

M40
Stone/ concrete/ quarry/ ceramic tiling/ mosaic

M40 Stone/ concrete/ quarry/ ceramic tiling/ mosaic

To be read with Preliminaries/ General conditions.

TYPES OF TILING/ MOSAIC

110A TILING TOSPLASHBACKS TO KITCHEN AND WC BASINS

- Tiles: Glazed
Manufacturer/ Supplier: Johnson Tiles
Harewood Street
Tunstall
Stoke on Trent
ST6 5JZ
United Kingdom.
 - Product reference: Prismatics
Prismatics is the largest range of plain colour wall tiles available in the UK. Produced in Stoke-on-Trent Prismatics use up to 29% recycled ceramic material from our own production process and other local ceramic suppliers. Prismatics give the option to choose from over 90 colours and 7 sizes ranging from 100x100mm to 600x300mm with the addition of glazed fittings in most sizes and colours. .
 - Colour: TBC.
 - Finish: Glazed.
 - Size: 200mm x 100mm
- Background/ Base: Plaster.
- Bedding: Thin bed adhesive - ribbed.
 - Reinforcement: Not applicable.
 - Adhesive: Contractor's choice.
- Joint width: As spacer lugs.
- Grout: White.

GENERAL

210 SUITABILITY OF BACKGROUNDS/ BASES

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

250 SAMPLES

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

260 CONTROL SAMPLES

- General: Complete sample areas, being part of finished work, in locations as follows: splashbacks.
 - Approval of appearance: Obtain before proceeding.
- Floor covering slip resistance testing: n/a.

PREPARATION

310 EXISTING BACKGROUNDS/BASES GENERALLY

- Efflorescence, laitance, dirt and other loose material: Remove.
- Deposits of oil, grease and other materials incompatible with the bedding: Remove.
- Tile, paint and other nonporous surfaces: Clean.
- Wet backgrounds: Dry before tiling.

330 EXISTING PLASTER

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

350 EXISTING TILES

- Loose or hollow sounding tiles: Remove.
- Making good: substrate to receive new tiling.

360 EXISTING PAINT

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

380 NEW PLASTER

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

390 PLASTERBOARD BACKGROUNDS

- Boards: Dry, securely fixed and rigid with no protruding fixings and face to receive decorative finish exposed.

410 HACKING FOR KEY

- Keying: Roughen backgrounds thoroughly and evenly to a depth of 3 mm.
- Backgrounds to be keyed: blockwork/masonry where insitu.

430 SPATTERDASHING FOR KEY

- Spatterdash mix:
 - Cement: Portland to BS EN 197-1 type CEM I/42.5
 - Sand: Clean coarse.
 - Proportions (cement:sand): 1-1.5:2.
 - Admixture: Not required.
 - Consistency: Thick slurry with no segregation.
- Application/finish: Thrown.
 - Thickness: 3-5 mm.
- Curing/ drying: Keep damp until hardened. Dry out to provide securely bonded finish.

460 SMOOTHING UNDERLAYMENT

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

FIXING

510 FIXING GENERALLY

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

550 FLATNESS/ REGULARITY OF TILING/ MOSAICS

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

560 LEVEL OF TILING ACROSS JOINTS

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

578 CRACK CONTROL REINFORCEMENT

- Type to BS 4483: D49.
- Installation: Place centrally in depth of bed. Lap not less than 100 mm and securely tie together with steel wire.
- Corners: Avoid a four layer build at corners.

651 ADHESIVE BED - NOTCHED TROWEL AND BUTTERING METHOD (WALLS)

- Application: By floated coat of adhesive to dry background in areas of about 1 m². Comb surface.
- Tiling: Apply thin even coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto float coat.
- Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacturer.

MOVEMENT JOINTS/ GROUTING/ COMPLETION

815 SEALANT MOVEMENT JOINTS IN TILING TO WALLS

- Joints: Extend through tiles and bedding to base/ background. Centre over joints in base/ background.
 - Width: to be advised.
- Sealant: Mapei Mapesil LM.
 - Colour: to be advised.
- Preparation and application: As section Z22.

875 GROUTING

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

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

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

To be read with Preliminaries/ General conditions.

TYPES OF COVERING

120 PVC LININGSCHANGING PLACES

- Manufacturer: Altro Limited
 - Telephone: +44(0)1462 707600 - Fax: +44 (0)1462 707515 - Email: enquiries@altro.com - Product Reference: Altro Whiterock Chameleon™ W160//W161
 - Substrate: Existing masonry and new plasterboard.
 - Preparation: As per manufacturers guidance. Good quality fairfaced brick or blockwork. Well aligned joints bagged up flush.
 - Straight to within 3mm over a 2m straight edge and bricks/blocks flush with ones adjacent.
 - All loose paint and dust to be removed. Friable surfaces should be removed or made sound. (Please consult Altro regarding approved sealing treatments)
 - Make good as needed by local patching or filling with a repair mortar or sand and cement with Unibond mix, to give a smooth, even surface.
 - Straight to within 3mm over a 2m straight edge. Allow for a plaster skim coat as M20 where necessary to provide a suitable surface.
 - Sheet: Extruded semi-rigid PVCu sheet, EU Grade Maximum service temp: 60°C Fire rating: BS 476 Part 7 (1987) surface spread of flame - Class 1 - BS 476 Part 6 (1989) fire propagation - Class 0* (*when fixed to a non-combustible substrate)
 - Width: 1220 mm
 - Length: 3000mm (W161)
 - Thickness: 2.5 mm
 - Surface finish: Gloss Colour: Refer to drawings.
 - Light reflectance values: 26-77 (ask for details)
 - Adhesive: AltroFix™ W139 or W157 depending upon substrate and in accordance with manufacturers guidance.
 - Joints: In accordance with manufacturers guidance. Abutments to tiling, vanity unit and window cill to be finished with sealant as 731

130A CARPET TILING

- Manufacturer: Heckmondwike, Division of National Floorcoverings Ltd. Wellington Mills, Liversedge, West Yorkshire. WF15 7FH
 - Web: www.heckmondwike-fb.co.uk.
 - Email: sales@heckmondwike-fb.co.uk.
 - Product reference: Supacord Tile.
 - Type: Fibre bonded thin ribbed carpet tile. Supacord Tile is a 7.6 mm thick bitumen backed 500 x 500 mm tile manufactured with 80% polypropylene, 15% polyamide and 5% recycled polyester. It is designed for use in most building situations, including computer rooms. .
 - Size: 500 x 500 mm.
 - Colour/ pattern: TBC.
- Method of laying: the method of installation should conform to BS5325. Allow for all preparation and laying methods in accordance with manufacturer's recommendations. Supacord tiles should be laid rotationally, alternating the direction of the tiles through 90°.
- Accessories: Edging strip at thresholds as clause 740.

130B CARPET TILING ENTRANCE AREAS

- Manufacturer: Heckmondwike, Division of National Floorcoverings Ltd. Wellington Mills, Liversedge, West Yorkshire. WF15 7FH
 - Web: www.heckmondwike-fb.co.uk.
 - Email: sales@heckmondwike-fb.co.uk.
- Product reference: Dreadnought UB Tile.
 - Type: Fibre bonded sculptured carpet tile.
 - Size: 500 x 500 mm.
 - Colour/ pattern: TBC.
- Method of laying: Allow for all preparation and laying methods in accordance with manufacturer's recommendations.
- Accessories: Edging strip at thresholds as clause 740.

150A SHEETING TO KITCHENETTES AND WC's

- Manufacturer: Altro.
 - Web: www.altro.co.uk.
 - Email: enquiries@altro.com.
 - Product reference: Altro Suprema II.
Offering an impressive palette of 40 colours, design-led Altro Suprema™ II creates just as many moods – from subtle and understated to bold and inventive. It is perfect for areas where you historically wouldn't expect to see a safety floor, or for areas where you would not have previously dared to specify light colours. The inclusion of Altro Easyclean Maxis PUR Technology, combined with the scope of the range, enables the choice of colour to become a decisive factor when specifying safety flooring.
- Flooring Roll: Homogenous PVC to EN 13845..
 - Width: 2000 mm.
 - Thickness: 2mm.
 - Colour/ pattern: TBC.
- Adhesive (and primer if recommended by manufacturer): As clause 640.
- Accessories: Self coved skirtings.

155A PVC SHEET FLOORING IN CHANGING PLACE

- Manufacturer: Altro.
 - Web: www.altro.co.uk.
 - Email: enquiries@altro.com.
 - Product reference: Altro Aquarius. Developed for lasting performance in wet and dry, shoes or barefoot. Achieving a pendulum test value of TRRL =50 and Class B to DIN51097 for barefoot use, Altro Aquarius provides optimum lifetime sustained slip-resistance in wet and dry environments. It's a 2mm safety floor that has been extensively tested on a variety of shoe types to ensure top performance in a host of environments – bathrooms, changing areas, hospital wards. Altro safety flooring should be laid in accordance with the Code of Practice BS 8203: 2001. Allow for all preparation and laying methods in accordance with manufacturer's recommendations.
 - Colour/ pattern: TBC.
- Accessories: Self coved skirtings.

GENERAL REQUIREMENTS

210 WORKMANSHIP GENERALLY

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

220 SAMPLES

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

250 LAYOUT - ROLL MATERIALS

- Setting out of seams: Agree setting out for sheeting types M50/ 150A & 155A .

270 EXTRA MATERIAL

- Provision of extra material: At completion, hand to Employer extra material of each type of covering to extent of 5% of each flooring type specified.

330 COMMENCEMENT

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

340 CONDITIONING

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

350 ENVIRONMENT

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

PREPARING BASES

410 NEW BASES

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

420 EXISTING BASES

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

430 NEW WET LAID BASES

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

440 SUBSTRATES TO RECEIVE THIN COVERINGS

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

460 SMOOTHING/ LEVELLING UNDERLAYMENT COMPOUND

- Type: flexible, ultra-fast drying, fibre-reinforced, self-smoothing underlayment.
- Manufacturer: Ball, F and Co Ltd.
 - Web: www.f-ball.co.uk.
 - Email: mail@f-ball.co.uk.
 - Product reference: Stopgap 700. Stopgap 700 Superflex is self-smoothing, and minimal work with a smoothing trowel is required; but any imperfections can be removed by rubbing with a carborundum stone as soon as the underlayment will accept foot traffic – typically one and a half hours after application at 20°C. This time will be extended with reduced temperatures, e.g. approximately three hours at 10°C. Allow underlayment to dry before laying floorcoverings. Primer: All surfaces must be primed with dilute Stopgap P131 primer to prevent uncontrolled rapid drying of the underlayment. The primer must be allowed to dry before applying the smoothing underlayment..

470 BASES FROM WHICH EXISTING FLOOR COVERINGS HAVE BEEN REMOVED

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

480 EXISTING FLOOR COVERINGS TO BE OVERLAID

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

520 TIMBER BOARDING/ STRIP FLOORING

- Substrate: Boards/ strips securely fixed and acceptably level with no protruding fasteners. Plane, sand or apply smoothing underlayment compound to give a smooth, even surface.

530 PARTICLEBOARD FLOORING

- Substrate: Boards securely fixed, level and free from surface sealers and contaminants.
 - Gaps between boards: Not more than 1 mm.
 - Priming: As required by covering adhesive manufacturer.
- Equilibrium moisture content at time of laying covering: As in service conditions.

535 PARTICLEBOARD FLOATING FLOORING

- Substrate: Boards securely fixed and free from surface sealers and contaminants.
- Level: Sand to remove areas raised more than 1 mm.
 - Gaps between boards: Not more than 1 mm.
 - Priming: As required by covering adhesive manufacturer.
- Equilibrium moisture content at time of laying covering: As in service conditions.

**560A PLYWOOD UNDERLAY FLOOR COVERING CONTRACTOR TO CONFIRM IF
REQUIRED PRIOR TO INSTALLATION OF FLOOR COVERINGS**

- Standard: An approved national standard.
- Bonding quality: To BS EN 314-2 class 1.
- Appearance: To BS EN 635 class E.
- Finish: Unsanded.
- Thickness: 4-6 mm.
- Sheet size: 2400 x 1200 mm.
- Substrate: Existing floor boards securely fixed and acceptably level with no gross irregularities or protruding fasteners.
- 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 or divergent staples.
 - 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 COVERINGS

610 SETTING OUT TILES

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

620 COLOUR CONSISTENCY

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

640 ADHESIVE FIXING GENERALLY

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

650 SEAMS

- Patterns: Matched.
- Joints: Tight without gaps.

670 BORDERS/ AND FEATURE STRIPS IN SHEET MATERIAL

- Curl: Not acceptable.
- Corners: Mitre joints.

680 SEAM WELDING COVERINGS

- Commencement: At least 24 hours after laying, or after adhesive has set.
- Joints: Neat, smooth, strongly bonded, flush with finished surface.

700 LOOSE LAID CARPET TILES

- Areas of adhered tiles: Secure using double sided tape or peelable adhesive.
- Joints: Butted.
 - Perimeter joints: Accurately cut to match abutment and prevent movement.

720 DOORWAYS

- Joint location: On centre line of door leaf.

740 EDGINGS AND COVER STRIPS

- Manufacturer: Gradus. Chapel Mill, Park Green, Macclesfield. SK11 7LZ.
 - Web: www.gradusworld.com.
 - Email: sales@gradusworld.com.
 - Tel: +44 (0)1625 428922.
 - Fax: +44 (0)1625 433949 .
 - Product reference: MTS Multi-trim System – PVC-u .
- Material/ finish: PVCu/TBC .
- Fixing: Secure with edge of covering gripped. Use matching fasteners where exposed to view

770 SKIRTINGS

- Types: PVC.
- Manufacturer: Altro Walls. Address: Works Road, Letchworth Garden City. SG6 1NW.
 - Web: www.altro.com.
 - Email: walls@altro.com.
 - Tel: +44 (0)1462 707600.
 - Fax: +44 (0)1462 707515.
 - Product reference: Self-Covered Skirting.
Self-Covered Skirting is designed for use in areas where spillage and washing down are likely. The Altro sheet flooring can be coved and turned up the wall to form a fully sealed finish.
 - Cove former: CF20R for a 20 mm radius. The floor finish should be turned up the wall for a minimum 100 mm and can be finished to a capping seal C7 onto plain walls or Captile strip C8 in association with wall tiling. All mitres and cuts within the coving must be hot welded
 - Adhesive: Altrofix 25NF contact adhesive.
- Fixing: Secure with top edge straight and parallel with floor.
 - Corners: Mitre joints.

780 TRAFFICKING AFTER LAYING

- Covering types: All.
- Traffic free period: Until adhesive is set.

COMPLETION

820 FINISHING PLASTICS FLOORING

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

880 WASTE

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

M60
Painting/clear finishing
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	14th Mar 2016
1	TENDER	18th Mar 2016
4	TENDER	22nd Apr 2016

Clauses amended in Revision 4

No.	Clause	
105	EGGSHELL PAINT	Added
106	EMULSION PAINT	Added
107	EMULSION PAINT	Deleted
162	VARNISH	Added
181	FLOOR COATING	Added

M60 Painting/clear finishing

To be read with Preliminaries/General conditions.

COATING SYSTEMS

105 EGGSHELL PAINT

- Manufacturer: Dulux Trade, product of ICI AkzoNobel.
 - Web: www.duluxtrade.co.uk.
 - Email: john_ashford@ici.com.
 - Product reference: Diamond EggshellEcosure Quick Drying Eggshell is a water-based, mid-sheen paint.
Severity of exposure: Moderate.
Type: Water based.
Sheen level: Mid.
- System code: (Substrate/ Number of system coats):
The preparation of the substrate, type and number of coats are determined by this code.
 - Plaster/ Plaster board/ Render surfaces:
D3: Multi-layer coating with good inter-coat adhesion; painted walls to be Class O fire rating upgraded/ Five.
D11: Multi-layer coating with good inter-coat adhesion; painted walls to be Class 1 fire rating upgraded/ Four.
D91: New plaster, render/ Two.
D93S: Solvent based painted wall and ceiling surfaces/ Two.
D93W: Water based painted wall and ceiling surfaces/ Two.
D101: Incompatible, poor adhesion, blistering wall and ceiling surfaces/ Two.
D105: New block and concrete/ Three.
D121: Multi-layer coating with good inter-coat adhesion; painted walls to be Class O fire rating upgraded/ Five.
D179: Multi-layer coating with good inter-coat adhesion; painted walls to be Class 1 fire rating upgraded/ Four.
D593: New plaster/ cement/ calcium silicate boards/ Two.
D602: Factory coated new plaster/ cement/ calcium silicate boards/ Two.
 - Wood/ Wood board surfaces:
D1084: Factory coated non-resinous softwood, hardwood/ Two.
D1085S: Solvent based painted non-resinous softwood, hardwood/ Two.
D1085W: Water based painted non-resinous softwood, hardwood/ Two.
D1086: Incompatible, poor adhesion, blistering coating on non-resinous softwood, hardwood/ Two.
D1090: New non-resinous softwood, hardwood/ Two.
D1213: New medium density fibreboard/ Two.
 - Plastic surfaces:
D7012: General plastic / One.
D7013: Uncoated not new general plastic/ One.
D7109: Fibreglass (GRP)/ One.
D7110: Uncoated not new fibreglass (GRP)/ One.
D7208: Paint coating on general plastic/ One.
 - Metal finished surfaces:
M719WTR: Galvanizing/ Two.
- Colour: As detailed on Finishes schedule.

106 EMULSION PAINT

- Manufacturer: Dulux Trade, brand of AkzoNobel.
 - Web: www.duluxtrade.co.uk.
 - Email: john_ashford@ici.com.
 - Product reference: Diamond Matt.

Diamond Matt is a water-based emulsion paint, ten times more durable than silk emulsions and resistant to common stains.

Severity of exposure: Moderate.

Type: Water based.

Sheen level: Low.
- System code: The preparation of the substrate, type and number of coats are determined by this code.
 - D7 - Painted walls to be Class 0 fire rating upgraded.
 - D13 - Painted walls to be Class 1 fire rating upgraded.
 - D94 - New blockwork and concrete.
 - D116 - Painted walls to be Class 0 fire rating upgraded.
 - D171 - Painted walls to be Class 1 fire rating upgraded.
 - D251 - New plaster/ cement/ calcium silicate boards, etc.
 - D252 - New plaster/ cement/ calcium silicate boards, etc.
 - D258 - New plaster, render, etc.
 - D261S - Painted (solvent based) wall and ceiling surfaces.
 - D261W - Painted (water based) wall and ceiling surfaces.
 - D262 - Painted (failed/ incompatible) wall and ceiling surfaces.
 - D281 - New plaster/ cement/ calcium silicate boards, etc (uncoated)..
- Colour: As detailed on Finishes schedule.

151A SATIN PAINT

- Manufacturer: Dulux Trade, brand of AkzoNobel.
 - Web: www.duluxtrade.co.uk.
 - Email: john.ashford@akzonobel.com.
 - Product reference: Quick Dry Satinwood.

Creates a mid-sheen satin finish, providing a subtle, attractive alternative to gloss. It is self-undercoating, wipeable, stays white and suitable for use on interior wood and metal, including radiators.
- Type: Water based.
- System code:
 - D1330 – Internal non resinous softwood/ Hardwood.
 - D1331 – Internal non resinous softwood/ Hardwood.
 - D1334S – Internal MDF/ Internal non resinous softwood/ Hardwood.
 - D1334W – Internal MDF/ Internal non resinous softwood/ Hardwood.
 - D1335 – Internal non resinous softwood/ Hardwood.
 - D1336 – Internal MDF.
- Colour: As schedule.

162 VARNISH - TO STAIRS

- Manufacturer: Sadolin, product of Crown Paints Ltd.
 - Web: www.sadolin.co.uk.
 - Email: info@sadolin.co.uk.
 - Product reference: Polyurethane Extra Durable Varnish
- Sadolin Polyurethane Extra Durable Varnish offers all the benefits of a water borne varnish, low odour, quick drying and fast re-coat time. Provides a tough, hard wearing finish resistance to stains and spills: an easy to clean surface.
- Sadolin Polyurethane Extra Durable Varnish is suitable for interior wood and trim including doors, windows, skirtings, cills, panelling, shelving, banisters and most other interior wood
- Preparation: Sadolin Woodfiller.
- Primer: Patch prime with one coat Sadolin Polyurethane Extra Durable Varnish, colour to match existing - Patch priming to existing coating.
Patch prime and bring forward with Sadolin Polyurethane Extra Durable Varnish - Patch priming and 'bringing forward' to existing coating.
- Colour and/ or finish: Satin.
- Number of coats: Three
- Recommended application rate: 10–12 m²/L on smooth planed timber. This figure is intended as a guide. The actual coverage will depend on a number of factors, including timber species, surface condition, moisture content, method of application and climatic conditions during application.
 - Wet film thickness (approximate minimum): 84 micrometres at 12 m²/L on non-absorbent surfaces.
 - Dry film thickness (approximate): 22 micrometres at 12 m²/L.
 - Drying time at 20°C/ 65% RH:
 - Touch dry: 1–2 hours.
 - Recoatable: 2–4 hours.
- Note: Drying times are dependent upon absorption of substrate and drying conditions. At low temperatures and/ or conditions of high relative humidity, drying times will be extended.
- Volume solids (approximately): 25%.
- VOC content: EU limit value for this product (cat. A/e): 150 g/L (2007)/ 130 g/L (2010).
This product contains maximum 40 g/L VOC.

181 FLOOR COATING- TO PLANT ROOM

- Manufacturer: Sales & Group Head Office
Watco House
Filmer Grove, Godalming, Surrey, GU7 3AL, UK
Tel: + 44 (0) 1483 418 418
Fax: + 44 (0) 1483 42 8888
Email: sales@watco.co.uk
Web: <http://www.watco.co.uk/contact.asp>.
- Product reference: Watco Safety Coat
 - Composition and Appearance: Solvent-free dispersion of epoxy resin incorporating fine aggregate that cures to a textured, matt to low sheen finish.
 - Slip Resistance: Ceram Research has tested Watco SafetyCoat using the Tortus Floor Friction Tester. Using a variety of rubber and leather materials the Tortus Tester measured slip resistance under wet and dry conditions. The results exceeded the recognised 'Very Good' safety standard by 25%.
 - Availability: Available in 10 colours in 5 litre units.
Coverage: Approximately 30m² per 5 litres for one coat. Two roller-applied coats are normally required. Brush application is suitable at edges but will not be as effective for general application and will also result in reduced coverage.
 - Chemical Resistance: Watco Safety Coat has good resistance to short term spillages of the following at 20°C: Petrol, diesel, fuel, methylated spirits, xylene, ammonia, white spirit, bleach, oil, anti-freeze, mineral hydraulic oil, caustic soda.
At 5%: citric acid, detergents, sugar solutions.
- Surfaces: Sand cement screed.
 - Preparation: Watco Safety Coat may be applied to concrete surfaces. New concrete should be at least four weeks old. Surfaces should be clean and dry. Very smooth or new concrete should be prepared using Watco Cemetch acid based cleaner. Cemetch removes loose cement deposits (laitance), and light dirt and provides a key. Grease and oil should be removed using Watco Bio-D or similar degreasant.
 - Masking: Mask any areas which may otherwise become flecked during roller application of the product..
- Initial coats: Watco Safety Coat as priming/sealing coat.
 - Number of coats: 1.
- Finishing coats: Watco Safety Coat applied as soon as the first coat is dry (approximately 16 hours at 20°C). Best results are obtained in warm, dry conditions with a good through draught. Apply Watco Safety Coat by simulated sheepskin roller. Do not exceed the maximum coverage of 30m² per 5 litres per coat. The temperature at floor level during application and cure must be at least 15°C, preferably higher. Occasional stirring of the product will ensure a more even distribution of the aggregate. In exceptional temperature conditions advice should be obtained from Watco's Technical Department.
 - Important Do not apply in temperatures of less than 15°C.
 - Number of coats: 1.
 - Other information:
 - Storage: The product must be stored for at least eight hours prior to use at a temperature range of 15°C minimum and 25°C maximum.
Avoid extremes of temperature. DO NOT ALLOW THE PRODUCT TO FREEZE.
 - Mixing: Remove the two tins from the tall outer tin. Decant all the contents of the two tins into the outer tin (scrape around the inside of the tins to remove any residue). Mix the components together very thoroughly using a spatula or similar wide bladed tool (a piece of wooden batten is ideal). Continue mixing until an even colour and consistency are obtained. Do not mix more than one unit at a time. If a paint stirrer fitted to an electric drill is used, also use the spatula to blend in any unmixed material from the sides and bottom of the tin.
 - Pot Life: Approximately 1 hour at 15°C - 20°C. Higher temperature will reduce the pot life.
 - Curing Time: The product will normally cure overnight (at 20°C) to accept light foot

traffic next day. The curing time will be extended by low temperatures. Temperatures of 10°C and below will arrest the curing of the product. Full chemical resistance is achieved over seven days (at a minimum constant temperature of 15°C). Avoid washing the surface for seven days.

- Safety: All product labels provide general safety information. Material Safety Data Sheets are available. Food products must be removed from the area during application and cure.
- Maintenance: Remove dirt with a soft broom or light scrubbing machine using detergents if necessary. Watco Floor Cleaner is an ideal product for this task. In areas of heavier contamination where it is impractical to use copious amounts of water to flush the surface, a wet vacuum may be necessary to remove contaminated water from the lightly textured surface. Do not steam clean or subject to temperatures in excess of 60°C. Watco Bio-D, for preparatory degreasing, is an emulsifying super penetrating degreasant that removes oil and grease from concrete.

GENERALLY

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.

240 SURFACES NOT TO BE COATED

- Areas of acoustic ceiling tiles.
Radiator valves and stop valves.

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.

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: surface mounted fixtures.
- Replacement: Refurbish as necessary, refit when coating is dry.

425 IRONMONGERY

- Removal: Before commencing work: Remove ironmongery from surfaces to be coated.
- Hinges: Do not remove.
- Replacement: 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.

456 PREVIOUSLY COATED SURFACE - BURNING OFF

- 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.

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

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.
 - Components: External door frames.
 - Additional coatings: One undercoat.

800 GLAZING

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

N **Furniture/Equipment**

N10
General fixtures/ furnishings/ equipment
Revision 5

Section Revision History

No.	Purpose	
0	TENDER	31st Mar 2016
4	TENDER	14th Jun 2016
5	TENDER	13th Jul 2016

Clauses amended in Revision 5

No.	Clause	
160	SHELVING SYSTEM	Added

N10 General fixtures/ furnishings/ equipment

To be read with Preliminaries/General conditions.

PRODUCTS

- 160 SHELIVING SYSTEMFOR HYGIENE ROOM.
- Manufacturer: SHOPFITTING WAREHOUSE.
 - Product reference: Chrome Wire Shelving Unit - 4 Shelves, H900 x W750 x D350 mm
Product Code: 0336501.
 - Dimensions: H900 x W750 x D350 mm.
 - Shelf Spacing: Manufacturer's standard.
 - Shelves:
 - Material: Steel.
 - Finish/ Colour: Chrome.
 - Carcass or frame:
 - Material: Steel.
 - Finish/ Colour: Chrome.
 - Other components: Feet.
- 160A SHELIVING SYSTEMGENERALLY.
- Manufacturer: Manufacturing, Catalogue & Web Sales
Storage Solutions Limited
Linden Close
School Lane
Great Torrington
Devon
EX38 7AL
United Kingdom
Tel 01805 624 062
Fax 01805 623 276
e-mail sales@storagesolutions.co.uk
Web: <http://www.spurshelving.co.uk/>.
 - Product reference: Spur™ wall mounted twin slot shelving system
This system uses uprights fixed to the wall, with parallel slots that the spur bracket fits into to give a strong support for shelving.
Spur Steel-Lok Uprights: Wall mounted shelf uprights are available in 170 for single level applications, 430, 710, 1000, 1500, 1980 and 2400mm lengths for all other applications.
Spur Steel-Lok Brackets: Brackets are available in 170, 220, 270, 320, 365, 470 and 610mm lengths.
Spring Rod Book Supports: Available in 150, 200 and 250mm lengths. These clip into the twin slot upright to give a solid fixing, preventing books and documents from sliding.
 - Shelves:
 - Material: Manufacturer: Norbord Ltd.
 - Web: www.norbord.com.
 - Email: info@norbord.net.
 - Product reference: Caberwood MDF
 - Grade: Standard.
 - Thickness: 25 mm quarter rounded.
 - Finish/ Colour: White.

196 PINBOARDSGENERALLY.

- Manufacturer: Sundeala Ltd.
 - Web: www.sundeala.co.uk.
 - Email: sales@sundeala.co.uk.
 - Tel: +44 (0)1453 540900.
 - Fax: +44 (0)1453 549085.
 - Address: Middle Mill, Cam, Dursley. GL11 5LQ.
 - Product reference: Notice Boards. Sundeala FRB are integrally treated by the addition of flame retardants to achieve Class B fire rating under European Harmonised Standard BS EN 13823: 2002 and BS EN 11925-1. All 9 mm Thick.
- Material: [FRB9].
- Size:
 - 1200 x 1200 mm
 - 1800 x 1200mm
 - 2400 x 1200 mm].
- Colour: [Light Grey].
- Profile: [Square].
- Frame: [Not required].

210 COAT RACKSGENERALLY.

- Manufacturer: Binns, A.J. Ltd.
 - Web: www.ajbinns.com.
 - Email: enq@ajbinns.com.
 - Product reference: Variset Multiple Hook System Type H170
- Variset is a Design Council award winning range of hat and coat hooks that can be either fixed individually or as multiple hook units. Multiple hooks and spacers slide on a backplate to give hooks at any spacing but as standard they are offered at either 95 mm or 190 mm centres. Hooks at 95 mm centres require 75 mm spacers and hooks at 190 mm centres require 170 mm spacers.
- Multiple hooks can be one type or a combination of the two types at either of the two centres or a mixture of both.
- Hook range: Type H: Hat and coat hook: 110 mm projection x 85 mm high overall; backplate 72 mm high.
- Arrangement: Single sided.
- Mounting: Single hooks: Screw plastic mounting block to wall, position hook and secure with grub screw.
Multiple hooks: Screw aluminium backplate to wall with fixings to suit wall type, slide on hooks and spacers, screw in end pressure plates and snap in end caps.
- Dimensions:
 - Overall length: as indicated on 400-G-001.
 - Overall height: TBC.
- Material: Aluminium.
 - Finish/ Colour: Silver anodised.
- Integral accessories: None.

EXECUTION

710 MOISTURE CONTENT OF WOOD AND WOOD-BASED BOARDS

- Standard: To BS EN 942
- Moisture content on delivery: 9-13%
- Temperature and humidity: During delivery, storage, fixing and to handover maintain conditions to suit specified moisture contents of timber components.

720 INSTALLATION GENERALLY

- General: As Preliminaries section A33.
- Fixing and fasteners: As section Z20.
- Services: As Engineering Services specification.

770 TRIMS

- Lengths: Wherever possible, unjointed between angles or ends of runs.
- Running joints: Where unavoidable, obtain approval of location and method of jointing.
- Angle joints: Mitred.

N11

Domestic kitchen fittings, furnishings and equipment

Section Revision History

No.	Purpose
0	TENDER

13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

N11 Domestic kitchen fittings, furnishings and equipment

To be read with Preliminaries/ General conditions.

PRODUCTS

310 FITTED BASE UNITSGENERALLY

- Standard: To BS 6222 -2 and -3, and BS EN 14749.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgeware Road, Colindale, London NW9 6TD
Web:www.howdens.com.
 - Product reference: Greenwich.
- Structural performance: To BS 6222-2, test level H.
- Dimensions: To BS EN 1116.
- Surface finishes: To BS 6222-3.
- Doors and drawer fronts:
 - Material: MFC Slab Door with 1.5mm ABS Edging.
 - Finish and colour: as indicated on 700-G-001.
 - Edges: To manufacturer's standard.
 - Other requirements: Upgrade Blum 110° zinc plated steel cushion close hinges.Upgrade Blumotion epoxy coated metal sides and rear, 15mm MFC base, soft closing action drawer box (requires fitting), with Upgrade Blumotion steel soft closing action runners (requires fitting).
- Side panels, plinths and shelves:
 - Material: as above.
 - Finish and colour: as indicated on 700-G-001.
 - Edges: To manufacturer's standard.
- Accessories: Infill panels.
Handles: as indicated on 700-G-001
Pull-out recycling bin. (2 x 15L)
 - Code: HYH1558.Integrated appliances as clauses 360 and 365.

320 FITTED WALL UNITSGENERALLY

- Standard: To BS 6222 -2 and -3, and BS EN 14749.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgeware Road, Colindale, London NW9 6TD
Web:www.howdens.com.
 - Product reference: Greenwich.
- Structural performance: To BS 6222-2, test level H.
- Dimensions: To BS EN 1116.
- Surface finishes: To BS 6222-3.
- Doors and drawer fronts:
 - Material: MFC Slab Door with 1.5mm ABS Edging.
 - Finish and colour: as indicated on 700-G-001.
 - Edges: To manufacturers standard.
 - Other requirements: Upgrade Blum 110° zinc plated steel cushion close hinges.
- Side panels and shelves:
 - Material: MFC.
 - Finish and colour: as indicated on 700-G-001.
 - Edges: To manufacturers standard.
- Accessories: Infill panels.
Handles: as indicated on 700-G-001.

340 WORKTOPS AND BREAKFAST BAR

- Standard: To BS 6222-3.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgware Road, Colindale, London NW9 6TD
Web: www.Howdens.com.
 - Product reference: Square edged 38mm Laminate Worktop 616mm / as indicated on 700-G-001.
- Material: Laminate.
- Dimensions: as indicated on 700-G-001.
- Exposed edges: Laminate.
- Support: Base units.
- Other requirements: Mitred joints. Sealant as clause 390.

350 SINKS, TAPS, TRAPS AND WASTES GENERALLY

- Sinks:
 - Standard: To BS EN 13310.
 - Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgware Road, Colindale, London NW9 6TD
- Web: www.Howdens.com.
Product reference: Lamona Belmont single bowl sink & Lamona single square bowl sink..
 - Configuration: Inset single sink with right hand drainer - SNK6005 & SNK1441.
 - Overall size: L985 x W508 x D210.
 - Material: Stainless steel .
Colour and finish: Stainless Steel.
- Tap/ chainstay/ overflow holes:
 - One tap hole, centre.;
 - No chainstay hole. ; and
 - Overflow hole..
- Taps: Mixer.
 - Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgware Road, Colindale, London NW96TD
Web:www.Howdens.com.
Product reference: TAP3521- Lamona Chrome Garda Swan Neck Monobloc Tap - WRAS Approved.
 - Operation: Mixer.
 - Material: Chromed steel.
- Wastes: -.
 - Standard: To BS EN 274-1, -2 and -3.
 - Manufacturer: As manufacturers standard.
Product reference: As manufacturers standard.
 - Size: To fit waste.
 - Material: Chromed steel.
 - Tail: Slotted.
- Traps: Tubular, P type.
 - Standard: To BS EN 274-1, -2 and -3.
 - Manufacturer: Howdens as above.
Product reference: As manufacturers standard.
 - Size: To fit waste.
 - Material: Plastic.
 - Depth of seal (minimum): 75 mm.
- Accessories: Support brackets.

360 APPLIANCES

- Item: Integrated dishwasher.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgware Road, Colindale, London NW96TD
Web www.Howdens.com.
 - Product reference: Lamona fully integrated dishwasher.
- Colour and finish: White - LAM8603 .
- Service connections: Cold water and Mains electricity.

360A APPLIANCES

- Item: Integrated single fan oven.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgware Road, Colindale, London NW96TD
Web www.Howdens.com.
 - Product reference: Lamona single fan oven.
- Colour and finish: Stainless Steel - LMS3400.
- Service connections: Mains electricity.

360B APPLIANCES

- Item: Induction hob.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgware Road, Colindale, London NW96TD
Web www.Howdens.com.
 - Product reference: Lamona touch control induction hob.
- Colour and finish: Black - LAM1763.
- Service connections: Mains electricity.

360C APPLIANCES

- Item: Chimney Extractor.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgware Road, Colindale, London NW96TD
Web www.Howdens.com.
 - Product reference: Lamona Stainless Steel 60cm chimney extractor with re-circulating carbon filter HJA2904/08.
- Colour and finish: Stainless Steel - LMS2400.
- Service connections: Mains electricity.

390 SEALANT

- Standard: To BS EN ISO 11600, class F20 HM.
- Type: A one-part, flexibility, fast curing, silicone rubber sealant specifically designed for the sealing of refrigeration units and onpourous surfaces where contact with food is likely.
Health and safety: Not hazardous according to council directive 1999/45/EC and its subsequent amendments.
 - Manufacturer: Dow Corning SA
 - Web: www.dowcorning.com
 - Email: marie.elliott@dowcorning.com.
 - Product reference: 786 Mildew Residential Silicone Sealant.
- Colour: White.

EXECUTION

610 MOISTURE CONTENT OF WOOD AND WOOD BASED BOARDS

- Control and monitoring:
Method statement: Submit.

620 INSTALLATION GENERALLY

- Fixings and adhesives: As section Z20.
- Services: as indicated on the drawings.

630 INSTALLING UNITS AND WORKTOPS

- General: Well fitting, stable and secure.

640 INSTALLING APPLIANCES

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

650 INSTALLING SINKS, TAPS AND WASTES

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

660 SEALANT BEDDING AND POINTING

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

670 INSTALLING TRIMS AND MOULDINGS

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

COMPLETION

910 GENERAL

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

920 APPLIANCE COMMISSIONING

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

N13
Sanitary appliances and fittings

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

N13 Sanitary appliances and fittings

To be read with Preliminaries/ General conditions.

PRODUCTS

300A WCS AND CISTERNS GENERALLY

- Manufacturer: Armitage Shanks.
 - Web: www.idealstandard.com.
 - Email: info@thebluebook.co.uk.
 - Product reference: Contour 21 schools, close coupled WC suite
- Pan: S3047 Contour 21 schools, open rim, 355 mm high, horizontal outlet.
Material: Vitreous china.
Colour: White.
- Seat and cover: [S4059 Contour 21 standard toilet seat no cover, bottom fixing hinges].
 - Colour: [White (01)].
 - Seat and cover material: Plastics.
- Pan connector: [S4300 Panekta, finned pattern, to convert horizontal outlet to S or turned P trap].
- Cistern: [S3640 Conceala 2 with cover, 4.5 litre, pneumatic single flush valve fittings, side supply]
 - Material: Plastics.
 - Internal overflow.
 - Flush pipe:
Concealed. Supplied with cistern.
- Material: Plastics].
 - Operating control: [S4512 Pneumatic finger push button in stainless steel for 25 mm maximum thickness partition].
- Accessories: [S9101 Domex screws (pair)].

311A UNISEX ACCESSIBLE CORNER WC EQUIPMENT PACKAGES (DOCUMENT M) TO
ACCESSIBLE AND CHANGING PLACES

- Manufacturer: Armitage Shanks.
 - Web: www.idealstandard.com.
 - Email: info@thebluebook.co.uk.
 - Product reference: S6955 Doc M close coupled pack with grab rails and hinged arm support with toilet roll holder. A pack that meets all Document M Building Regulations. Suitable for hotel and public use and provides equal access for all users. Specially designed to combine all the features of standard pack with a close coupled WC. Includes TMV3 approved thermostatic valve to help prevent scalding. LANTAC approval number 255-5-46, DEFRA approved, water technology listed. Options for white/ blue seats and rails and stainless steel rail with grey seat available. Supplied with layout drawings, detailing the fixing positions necessary for Doc M compliance.
- Position: [The components can be fitted in the left hand or right hand corner of the room (the cistern handle is reversible). Left hand. Right hand].
- Colour: White.
 - Accessories: [S4300 Panekta outlet connector, finned pattern to convert horizontal outlet WCs to S or turned P traps
 - Pack components:
 - A4131 Contour 21 (TP6) lever action thermostatic sequential basin mixer tap, flexible tails.
 - S2122 Contour 21 handrinse washbasin in vitreous china, 370 x 300 mm, one centre taphole, no overflow, no chainstay hole, bottom outlet.
 - S3054 Contour 21 close coupled raised height WC pan with floor fixing kit, horizontal outlet
 - S3654 Contour 21 close coupled cistern and secure cover, 4.5 litre, with Freeflo syphon, bottom supply Microvalve HP/ LP ballvalve with Whisperflo refill unit, internal overflow, close coupling fitment.
 - S4066 Contour 21 seat no cover, top fixing hinges and retaining buffers.
 - S4420 Spatula type reversible side lever assembly.
 - S6452 Contour 21 grab rail, straight 450 mm long x 35 mm diameter.
 - S6454 Contour 21 grab rail, straight 600 mm long x 35 mm diameter.
 - S6467 Contour 21 hinged support rail, 800 x 35 mm O.D.
 - S6468 Toilet roll holder for Contour 21 hinged arm rail.
 - S8810 1¼" dished pattern plastic strainer waste, 80 mm unslotted tail.
 - S8910 (TR1/P) 1¼" plastic bottle trap with 75 mm seal.
 - S9110 Concealed steel hangers.].

331A SINKS

- Manufacturer: Armitage Shanks.
 - Web: www.idealspec.co.uk.
 - Email: info@thebluebook.co.uk.
 - Product reference: S5900 Alder sink, with 310 mm high splashback, bucket grating and hardwood pad
- Wall mounted bib taps: S7205 (TB3) Nimbus ½" inclined bib taps, complete with handles.
- Wastes: S8725 Chrome plated, 1½" slotted strainer waste, 80 mm tail.
- Traps: S8915 (TR2/P) 1½" self colour plastics bottle trap with 75 mm seal.
- Accessories:
 - S9223 Stainless steel legs and aluminium alloy bearers;
 - S9101 Domex screws (pair); and
 - S8336 ½" wall mounts for concealed plumbing (pair).

335A WASH BASIN TO WC's

- Manufacturer: Armitage Shanks.
 - Web: www.idealstandard.com.
 - Email: info@thebluebook.co.uk.
 - Product reference: [S2157 Portman 21 400 mm Washbasin with single taphole, overflow, no chainstay hole.
 - Material: Vitreous china.
- Colour: White.
 - Recommended fixing heights (from floor to front rim):
 - Nursery use: 600 mm.
 - Infant use: 700 mm.
 - Junior use: 750 mm.
 - Senior/ Adult use: 780–800 mm].
- Water supply fittings: [B8260 Piccolo 21 basin monoblock basin mixer, no pop up waste].
- Wastes: [S8722 Chrome plated, 1¼" strainer waste, 80 mm slotted tail].
- Bottle traps: [S8920 (TRR1/P) 1¼" White plastic resealing bottle trap with 75 mm seal].
- Accessories: [S9138 Concealed bracket with clamps and centre waste support for Portman 21, 40 cm washbasins.

441 PAPER ROLL DISPENSERS

- Manufacturer: Dart Valley Systems (DVS), Kemmings Close, Long Road, Paignton TQ4 7TW.
 - Product reference: DVS-08787.
- Material: Plastic.
 - Width: As standard.
 - Finish/ Colour: White.

458A LIQUID SOAP DISPENSERS

- Manufacturer: Dart Valley Systems Ltd.
 - Web: www.dartvalley.co.uk.
 - Email: sales@dartvalley.co.uk.
 - Product reference: AC00-030.

472A HAND DRIERS

- Manufacturer: Dyson.
 - Web: www.dyson.co.uk/hand-dryers.
 - Email: specification@dysonairblade.co.uk.
 - Product reference: AB07 - Polycarbonate ABS, 661 x 303 x 247 mm..
- Colour/ Finish: Grey.

488 CHANGING BENCHES HEIGHT ADJUSTABLE.

- Manufacturer: Total Hygiene Ltd . Bank House 182-186 Washway Road . Sale . Cheshire . M33 6RN
Tel: 0800 374076 . Fax: 0161 973 2711 .
Email: info@total-hygiene.co.uk .
Web: www.clos-o-mat.com.
 - Product reference: Height Adjustable Changing Bench CP CB 3-7.
- Type: Height adjustable.
- Size: 1800 mm length (minimum).
- Material: Aluminium, polyurethane foam, plastics, powder-laquered steel.
- Finish/ Colour: As standard.

490 HOIST SYSTEMS CHANGING PLACES.

- Manufacturer: Total Hygiene Ltd . Bank House 182-186 Washway Road . Sale . Cheshire . M33 6RN
Tel: 0800 374076 . Fax: 0161 973 2711 .
Email: info@total-hygiene.co.uk .
Web: www.clos-o-mat.com.
 - Product reference: Ceiling Track Hoist - X Y Hoist system – CP XY 1*.
- Material: as standard.
- Finish/ Colour: White.
- Electrical supply: Fused switched 13 A connection.

492 PRIVACY CURTAINS CHANGING PLACES.

- Manufacturer: Total Hygiene Ltd . Bank House 182-186 Washway Road . Sale . Cheshire . M33 6RN
Tel: 0800 374076 . Fax: 0161 973 2711 .
Email: info@total-hygiene.co.uk .
Web: www.clos-o-mat.com..
 - Product reference: Mobile Ward Screen – 4 sections - CP WS 1*.
- Material: as standard.
- Finish/ Colour: White.

580 SEALANT FOR POINTING

- Standard: To BS EN ISO 11600.
 - Class: F20 HM.
- Type: A one-part, gun applied, silicone sealant specifically designed for the sealing of sanitary fittings, including baths, showers, sinks, urinals and ceramic tile joints. Mildew and fungus resistant. No primer is required on most glazed surfaces, including vitreous enamel, ceramics, porcelain, glazed tiles, etc. For acrylic baths, it is recommended that an adhesion test is carried out. Adhesion to plastic and metal surfaces can be improved by using a Dow Corning brand primer.
 - Health and safety: Not hazardous according to article 31 and Annex II of EU REACH Regulation and its subsequent amendments.
- Manufacturer: dow Corning Ltd.
 - Web: www.dowcorning.com.
 - Email: marie.elliott@dowcorning.com.
 - Tel: +44 (0)1676 528000.
 - Fax: +44 (0)1676 528001.
 - Address: Meriden Business Park, Copse Drive, Allesley, Coventry. CV5 9RG.
 - Product reference: 785 Sanitary Silicone Sealant.
- Colour: White.

EXECUTION

610 INSTALLATION GENERALLY

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

620 NOGGINGS AND BEARERS

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

630 TILED BACKGROUNDS OTHER THAN SPLASHBACKS

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

650 INSTALLING WC PANS

- Floor mounted pans: Screw fix and fit cover caps over screw heads. Do not use mortar or other beddings.
- Seat and cover: Stable when raised.

670 INSTALLING CISTERNS

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

710 INSTALLING TAPS

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

720 INSTALLING WASTES AND OVERFLOWS

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

725 INSTALLING HAND DRIERS

- Fused connection units:
 - Type: Unswitched.
 - Engraving: With 'HAND DRIER'.
 - Location: Immediately below ceiling.
- Final connection: Concealed.
 - Containment: 25 mm PVC-U rigid conduit.

755 SEALANT BEDDING AND POINTING

- Bedding: Bed sinks to top of worktops. .
- Pointing: Joints between appliances and splashbacks, walls, floors .

N14
General internal signage systems

N14 General internal signage systems

To be read with Preliminaries/ General conditions.

GENERAL

110A SIGNAGE SYSTEMINTERNAL

- System manufacturer: Stocksigns
Tel: 01737 764764
Fax: 01737 763763
Email: sales@stocksigns.co.uk
Web: www.stocksigns.co.uk .
 - Product reference:
Prohibition signs - no smoking, no running, not drinking water etc.
and as detailed on ironmongery schedule .
Layout and dimensions: As schedule .
Lettering:
 - Language: English .
 - Font: Manufacturer's standard range .
 - Colour: White .
 - Size: Manufacturer's standard range .
 - Symbols and graphics: Manufacturer's standard range .
 - Colour: Manufacturer's standard range .
 - Size: Manufacturer's standard range .
 - Background colour: Manufacturer's standard range .
 - Sign type: Plastics sheet .
 - Inserts: None .
 - Manufacturing process: Manufacturer's standard .
 - Supports/ Fixings: Wall mounted, screw-fixed .
 - Accessories: Not required .

110B SIGNAGE SYSTEMEXTERNAL

- System manufacturer: Stocksigns
Tel: 01737 764764
Fax: 01737 763763
Email: sales@stocksigns.co.uk
Web: www.stocksigns.co.uk .
 - Product reference:
External Signage and Private Parking
Layout and dimensions: TBC .
Lettering:
 - Language: English .
 - Font: Manufacturer's standard range .
 - Colour: White .
 - Size: Manufacturer's standard range .
 - Symbols and graphics: Manufacturer's standard range .
 - Colour: Manufacturer's standard range .
 - Size: Manufacturer's standard range .
 - Background colour: Manufacturer's standard range .
 - Sign type: Plastics sheet .
 - Inserts: None .
 - Manufacturing process: Manufacturer's standard .
 - Supports/ Fixings: Wall mounted, screw-fixed .
 - Accessories: Not required .

SYSTEM PERFORMANCE

210 GENERAL REQUIREMENTS

- Signage system: Complete to BS 559, including facing information, components, inserts, accessories and fixings necessary to complete the system.
 - Comply with the requirements of: Fire strategy report and Wayfinding strategy.
- Geometric shapes, colours and layout: In accordance with BS 8501.
- Design standard for disabled people: In accordance with BS 8300.
- Proposals: Submit drawings, schedules, technical information, calculations and manufacturer's literature.

295 SIGNAGE SAMPLES BOARD

- Samples board: Submit.
 - Content: Selected labelled signs, showing methods of fixing.
 - Conformity: Retain samples on site for the duration of the contract or until instructed to remove.
- Delivered product: To conform with labelled samples.

PRODUCTS

305 PRODUCTS GENERALLY

- Standard: To BS 559.

EXECUTION

610 FIXING SIGNS GENERALLY

- Installation: To BS 559.
 - Secure, plumb and level.
- Strength of fasteners: Sufficient to support all live and dead loads.
- Fasteners and or adhesives: As section Z20.
- Fixings showing on surface of sign: Must not detract from the message being displayed.

620 FIXING SIGNS FOR THE VISUALLY IMPAIRED

- Protection of users:
 - Fasteners for tactile/ Braille signs must not have sharp edges or protrusions that would cause confusion or injury to users.

COMPLETION

910 DOCUMENTATION

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

N15
Internal fire and safety signage systems

N15 Internal fire and safety signage systems

To be read with Preliminaries/ General Conditions.

GENERAL

110 FIRE SIGNAGE SYSTEMS FOR ESCAPE ROUTE AND FIRE FIGHTING EQUIPMEN

- System manufacturer: Stocksigns Tel: 01737 764764
Fax: 01737 763763
Email: sales@stocksigns.co.uk
Web: www.stocksigns.co.uk.
 - Product reference: Refer to clauses 330 and 333.
- Layout and dimensions: Submit proposals.
 - Language: English.
- Sign type: Plastics sheet.
 - Manufacturing process: Manufacturer's standard.
- Supports/ Fixings: Wall mounted, screw fixed.
- Accessories: Not required.

120 SAFETY SIGNAGE SYSTEMSMANDATORY ACTION AND SAFE CONDITION

- System manufacturer: Stocksigns
Tel: 01737 764764
Fax: 01737 763763
Email: sales@stocksigns.co.uk
Web: www.stocksigns.co.uk.
 - Product reference: Refer to clauses 331, 332 and 334.
- Layout and dimensions: Submit proposals.
 - Language: English.
- Sign type: Plastics sheet.
 - Manufacturing process: Manufacturer's standard.
- Supports/ Fixings: Wall mounted, screw fixed.
- Accessories: Not required.

SYSTEM PERFORMANCE

210 GENERAL REQUIREMENTS

- Signage system design:
 - Complete to: BS 559 and BS ISO 16069.
 - Comply with the requirements of: Fire Strategy Report / Assessments.
- Proposals: Submit drawings, schedules, technical information, calculations and manufacturer's literature.

240 SIGNAGE SYSTEM SPECIFICATION

- Content: Signs including facing information, components, inserts, accessories and fixings necessary to complete the system.
- Geometric shapes, colours and layout: To BS ISO 3864-1.
- Escape route: In accordance with BS 5499-4 and BS ISO 16069.
- Safety meaning: In accordance with BS EN ISO 7010.
- Water safety: In accordance with BS ISO 20712-1.

290 SIGNAGE SAMPLES

- Sign type: submit labelled samples.
 - Action: Submit labelled samples.
 - Conformity: Retain samples on site for the duration of the contract or until instructed to remove.
 - Delivered products: To conform with labelled samples.

PRODUCTS

305 INTERNAL SIGNAGE PRODUCTS GENERALLY

- Standard: To BS 559.
- Colorimetric and photometric properties: To BS ISO 3864-4.

330 PLASTICS SHEET FOR MANDATORY FIRE ACTION & ESCAPE ROUTE SIGNS

- Material: Acrylic.
- Manufacturer: Stocksigns
Tel: 01737 764764
Fax: 01737 763763
Email: sales@stocksigns.co.uk
Web: www.stocksigns.co.uk.
 - Product reference: Emergency escape signs.
- Component thickness: 2mm.
- Finish: Manufacturer's standard.
- Perimeters: Radius corners.

EXECUTION

610 FIXING SIGNS GENERALLY

- Installation: To BS 559.
 - Secure, plumb and level.
- Fasteners and adhesives: As section Z20.
- Strength of fasteners: Sufficient to support live and dead loads.
- Fasteners for external signs: Corrosion resistant material or with a corrosion resistant finish. Isolate dissimilar metals to avoid electrolytic corrosion.
- Fixings showing on surface of sign: Must not detract from the message being displayed.

COMPLETION

910 DOCUMENTATION

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

P
Building fabric sundries

P10
Sundry insulation/ proofing work
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	15th Mar 2016
1	TENDER	18th Mar 2016
4	TENDER	15th Apr 2016

Clauses amended in Revision 4

No.	Clause	
196	INSULATION FITTED BETWEEN STUDS	Added

P10 Sundry insulation/ proofing work

SUNDRY INSULATION/ PROOFING WORK

To be read with Preliminaries/ General conditions.

TYPES OF INSULATION

196 INSULATION FITTED BETWEEN STUDS TO TIMBER FRAME INTERNAL PANELS

- Manufacturer: Rockwool Ltd.
 - Web: www.rockwool.co.uk.
 - Email: info@rockwool.com.
 - Product reference: Rockwool Flexi.

Lightweight, water repellent and rot proof semi-rigid stone wool slabs.
Suitable for insulation of wall, floor and roof constructions, offering excellent thermal, acoustic and fire protection performance.
Compressible edge intended to eliminate air gaps and improve thermal efficiency when fitted between studs and joists etc.
Rockwool Flexi is CE and Key marked in accordance with BS EN 13162.
Non-combustible, achieving a classification of A1 in accordance with BS EN 13501-1.
Rockwool insulation products do not contain blowing agents with an ozone depletion potential (ODP) or global warming potential (GWP); are CFC–HCFC-HFC free and 97% recyclable.
They will not react with metal components or cause loss of plasticiser from PVC cables and pipes.
- Dimensions:
 - Thickness: 90 mm.
 - Width: 600/400 mm.
- Length: 1200 mm.

Certified coefficient of thermal conductivity at 10°C (maximum): 140mm: 0.035 W/mK.
R Value: 140 mm: 4.000 m²K/W.

231 SUNDRY MINERAL WOOL INSULATION FOR GENERAL SEALING OF GAPS

- Material: Rock wool.
- Standard: To BS EN 13162, Kitemark certified.
- Manufacturer: Rockwool Ltd.
 - Web: www.rockwool.co.uk.
 - Email: info@rockwool.com.
- Product reference: Rockwool rolls
Lightweight, water repellent and rot proof stone wool insulation, suitable for installation between roof and floor ties/ joists in domestic, commercial and industrial buildings.
Offers excellent thermal, acoustic and fire protection insulation.
Rockwool Rolls are CE, Key and Kite marked in accordance with BS EN 13162.
Non-combustible, achieving a classification of A1 in accordance with BS EN 13501-1.
Rockwool insulation products do not contain blowing agents with an ozone depletion potential (ODP) or global warming potential (GWP), are CFC-HCFC-HFC free and 97% recyclable. They will not react with metal components or cause loss of plasticiser from PVC cables and pipes.
- - Thickness: as required
Dimensions:
1200 mm wide, partly cut to provide 400 mm and 600 mm widths as required.
Thickness x Length: 100 x 4800 mm; 150 x 3200 mm; 170 x 2800 mm.
Thermal conductivity: 0.044 W/mK.
R values:
100 mm: 2.27 m²K/W.
150 mm: 3.41 m²K/W.
170 mm: 3.86 m²K/W.
- Installation requirements:
 - Fixing: Fit tightly with joints, butted, no gaps.
 - Fasteners: Used to prevent slumping/ displacement.

440 FIRE PROTECTION

- Manufacturer: Rockwool Ltd.
 - Web: www.rockwool.co.uk.
 - Email: info@rockwool.co.uk.
 - Product reference: Rockwool Firepro Acoustic Intumescent Sealant.
- Material: A high specification, one part water based acrylic sealant.
The sealant also provides a smoke seal and an acoustic seal.
- Thickness: Extruded from a cartridge loaded into a standard sealant gun, designed for sealing joints and service penetrations in fire walls, partitions, fire rated door frames and glazing systems. The depth of the joint will depend on the gap to be filled and the fire rating required.
- Fire resistance rating: Tested to BS 476: Parts 20 and 22, providing fire protection up to 4 hours, in joints up to 30 mm width. All joint widths achieve 4 hours fire integrity.
Maximum joint sizes and performance:
10 mm wide x 10 mm depth, single seal. Backing: Polyethylene foam rod. Fire resistance: 240 /30 minutes integrity/insulation.
15 mm wide x 10 mm deep, single seal. Backing: Polyethylene foam rod, Fire resistance: 240 /30 minutes integrity/insulation.
20 mm wide x 15 mm deep, dual seal. Backing: Polyethylene foam rod. Fire resistance: 240 /120 minutes integrity/insulation.
20 mm wide x 20 mm depth, single seal. Backing: Rockwool Linear Firestop 2. Fire resistance: 240 /60 minutes integrity/insulation.
30 mm wide x 20 mm deep, dual seal. Backing: Polyethylene foam rod. Fire resistance: 240 /120 minutes integrity/insulation.
30 mm wide x 15 mm deep, single seal. Backing: Rockwool Linear Firestop 2. Fire resistance: 240 /30 minutes integrity/insulation.
- Number of layers: -.
- Installation requirements: Continuous, with minimum joints.
 - Fasteners: -.
- Other requirements:
Acoustic performance:
Weighted Sound Reduction Index (Rw): Up to 57 dB.

P12
Fire stopping systems
Revision 3

Section Revision History

No.	Purpose	
0	TENDER	8th May 2015
1	TENDER	18th Mar 2016
3	TENDER	30th Mar 2016

Clauses amended in Revision 3

No.	Clause	
370	PIPE COLLAR - CONCEALED INTUMESCENT	Revised

P12 Fire stopping systems

To be read with Preliminaries/ General conditions.

GENERAL

130 FIRE STOPPING SYSTEM TO INDIVIDUAL SERVICES PENETRATIONS GENERALLY

- Fire resistance: As required by Building Regulations.
- Penetration seal: As 330, 340, 370, 371, 375.
 - Size: Varies.
- Capping sealant: As clause 395.
 - Colour: White .

160 LINEAR GAP SEALING IN FIRE RESISTING WALLS

- Fire resistance: As required by Building Regulations.
- Gap width or height (nominal): 25 mm.
- Gap filler: Manufacturer:
 - PFC Corofil Fire Stop Products.
 - Web: www.pfc-corofil.com.
 - Email: sales@pfc-corofil.co.uk.
 - Product reference: C144 Firestop Strip

Rock fibre strips designed to fire seal construction joints between two flat surfaces where the joint is uniform in size and movement may occur.

Manufactured from high density, low phenolic binder, rock fibre. Supplied in 1 m lengths for friction fitting into the joint. The width of the strip depends on the fire rating required.

Strip thickness: C144 Firestop Strip is slightly oversized compared to the joint size, so that it is installed under slight compression.

- Capping sealant: As clause 395.
 - Colour: White .

SYSTEM PERFORMANCE

210 DESIGN

- Design: Complete the design of the fire stopping system.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

PRODUCTS

305 PRODUCT CERTIFICATION

- Certification: For products specified generically, submit evidence of compliance with the specification.
- Acceptable evidence: Listing in LPCB Register.

330 FIRE STOP LAMINATE

- Manufacturer: PFC Corofil Fire Stop Products.
 - Web: www.pfc-corofil.com.
 - Email: sales@pfc-corofil.co.uk.
- Product reference: C25 Cable Firestop
A compressible fire retardant foam which is laminated both sides with a graphite based intumescent polymer. Supplied in one metre lengths, 60 mm wide x nominal 25 mm thick, for cutting on site to suit.
Applications:
Designed to effectively seal cable bunches in electrical trunking and cable trays where they pass through fire rated walls and floors. The maximum gap to be sealed should not exceed 60 mm. For firestopping larger gaps or voids, Intumescent Pillows or Firestop Compound may be installed
Fire rating: Tested to BS 476-20. Provides up to 4 hours fire protection.
- Strip width: 60 mm.

335A INTUMESCENT FOAM

- Not permitted

340 INTUMESCENT MORTAR

- Manufacturer: PFC Corofil Fire Stop Products.
 - Web: www.pfc-corofil.com.
 - Email: sales@pfc-corofil.co.uk.
- Product reference: Firestop Compound
A specially formulated gypsum based mortar which, when mixed with water, can be trowelled or poured around service penetrations.
Applications: Used to provide a fire rated seal around service penetrations in fire rated walls and floors.
Installation:
In floors: PFC Corofil permanent shutter panel (50 mm) is cut and friction fitted between services and the edges of the floor slab. Firestop Compound is then trowelled over the shutter to a depth of 25 mm thick.
In walls: Firestop Compounds mixed into a stiff consistency for trowelling into openings.
Fire rating: Tested to BS 476-20. Provides up to 6 hours fire protection dependent upon thickness of compound.

370 PIPE COLLAR - CONCEALED INTUMESCENT

- Manufacturer: PFC Corofil Fire Stop Products.
 - Web: www.pfc-corofil.com.
 - Email: sales@pfc-corofil.co.uk.
- Product reference: Firestop Collars
Consists of a powder coated steel sleeve, with integral toggles, containing a flexible graphite based intumescent liner.
Applications: Used for the firestopping of plastic pipework where it passes through compartment walls and floors.
Installation: Integral toggles are opened allowing collar to be fitted to the pipework. Toggles can then be closed and the collar is then pushed flush to the surface of the wall or underside of the floor. The collar is then securely fastened to the structure by means of fire resistant fixings threaded through fixing tabs.
Gaps around the collar (up to 25 mm) should be filled with PFC Corofil Acoustic Intumescent Sealant. For gaps greater than 25 mm wide PFC Corofil Firestop Compound can be used
Sizes: Available to suit pipe sizes ranging from 55 to 355 mm OD.
Fire rating: Tested to BS 476-20. Provides up to 4 hours fire protection.

375 PIPE COLLAR - INSULATED WRAP

- Manufacturer: PFC Corofil Fire Stop Products.
 - Web: www.pfc-corofil.com.
 - Email: sales@pfc-corofil.co.uk .
- Product reference: Intumescent Pipe Wraps
Comprise layers of a graphite based intumescent sheet encapsulated in a polythene sheath.
Applications: Used for the firestopping of plastic pipework and electrical trunking in walls and floors.
Installation: Wrapped around the outside diameter of the pipework or trunking and secured by means of a self-adhesive strip. The intumescent pipe wrap is then positioned within the compartment wall or floor so that the edge of the product is left exposed at the face of the wall or soffit.
The Intumescent Pipe Wrap is then sealed into the structure with PFC Corofil Firestop Compound.
Fire rating: Tested to BS 476-20. Provides up to 4 hours fire protection.

376 PIPE COLLAR - INSULATED WRAP

- Manufacturer: PFC Corofil Fire Stop Products.
 - Web: www.pfc-corofil.com.
 - Email: sales@pfc-corofil.co.uk .
- Product reference: Insulated Fire Sleeves
A combination of rockwool and graphite intumescent that provide all the benefits of Rockwool's thermal, noise and fire benefits with an added intumescent effect. For insulated pipes it is normally necessary to remove the insulation at the point penetration to enable standard pipe collars to close plastic pipes. This removal of insulation results in condensation on cold pipes and loss of thermal performance on hot pipes. Firepro Insulated Fire Sleeves avoids this problem by providing both fire stopping and thermal insulation.
Applications: Insulated Fire Sleeves are used for the firestopping of insulated pipe penetrations. Intended for use on copper, mild steel, polypropylene and PVC pipework. Operating temperatures between 0°C and 180°C.
Installation: Wrapped around the outside diameter of the pipework or trunking and secured by means of a self-adhesive strip. The intumescent pipe wrap is then positioned within the compartment wall or floor so that the edge of the product is left exposed at the face of the wall or soffit.
The Intumescent Pipe Wrap is then sealed into the structure with PFC Corofil Firestop Compound.
Fire rating: Provides ½, 1 and 2 hour fire protection.

395 SEALANT - ONE-PART FIRE RESISTING ACRYLIC

- Manufacturer: PFC Corofil Fire Stop Products.
 - Web: www.pfc-corofil.com.
 - Email: sales@pfc-corofil.co.uk .
- Product reference: Acoustic Intumescent Sealant
A high specification, one-part, water based, acrylic sealant for filling gaps in fire rated walls, partitions, floors, fire rated door frames and glazing systems. The sealant may be used to seal joints in party walls to provide an acoustic seal.
The sealant is applied from a cartridge loaded into a standard sealant gun and is suitable for construction joints up to 30 mm wide. The sealant has good adhesion and gives a flexible, fire resistant, tack-free seal: compatible with timber, steel, plastic, concrete, brickwork and blockwork.
Fire resistance:
Provides up to 4 hours integrity and 2 hours insulation to BS 476-20 and -22, depending on joint depth.

EXECUTION

620 WORKMANSHIP GENERALLY

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

650 INSTALLING FIRE STOP LAMINATE

- Fitting of strips: Compress strips and fit into gap so that, as they decompress, the strips wedge themselves in the void.
- Shrink wrapping: Do not remove.
- Joints:
 - Ends of strips: Fit intumescent 'end piece' at both ends of run of fire stop laminate.
 - Joints between strips: Fit two intumescent 'end pieces' at each butt joint.

670 APPLYING INTUMESCENT MORTAR

- Sequence: Install mortar after services are permanently installed.
- Loose dust and combustible materials: Remove from the opening.
- Shuttering: Install suitable shuttering panels to the faces of the opening.
- Temperature: Do not apply mortar when it could be damaged by frost.
- Powder:water ratio: in accordance with manufacturers recommendations.
- Mortar cure: Do not disturb mortar before final set has taken place.
- Shuttering: Remove after mortar has cured.

730 FIXING PIPE COLLARS

- Collar fixing: Plugged and screwed with 38 mm x No. 10 screws.
- Gap around collar: Seal with joint filler and sealant.
- Length of wraps: Project 50 mm from each side of the element.

740 INSERTING SEALANT BACKING MATERIAL

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

745 APPLYING SEALANTS GENERALLY

- Application: As section Z22.

750 APPLYING CAPPING SEALANT

- Preparation: De-grease using cleaner recommended by sealant manufacturer.
- Priming: Primer recommended by sealant manufacturer.
- Depth of sealant: 10 mm.
- Temperature: Do not apply water based sealants when they could be damaged by frost.

COMPLETION

910 CLEANING

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

920 INSPECTION

- Notice for inspection (minimum): 4 days.

P20
Unframed isolated trims/ skirtings/ sundry items
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	8th May 2015
1	TENDER	18th Mar 2016
3	TENDER	30th Mar 2016
4	TENDER	15th Apr 2016

Clauses amended in Revision 4

No.	Clause	
110	SOFTWOOD	Revised

P20 Unframed isolated trims/ skirtings/ sundry items

To be read with Preliminaries/ General conditions

110 SOFTWOODSKIRTINGS GENERALLY

- Quality of wood and fixing: To BS 1186-3.
 - Species: Softwood.
 - Class: 2.
- Moisture content at time of fixing: 9-13%.
- Preservative treatment: Water based microemulsion as section Z12, service life 30 years.
- Fire rating: Not applicable.
- Profile: to infill existing.
 - Finished size: to match existing.
- Finish as delivered: Natural.
- Fixing: Plugged, screwed and pelleted at 450mm centres.

EXECUTION

510 INSTALLATION GENERALLY

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

P21
Door/ window ironmongery
Revision 1

Section Revision History

No.	Purpose	
0	TENDER	15th Mar 2016
1	TENDER	18th Mar 2016

Clauses amended in Revision 1

No.	Clause	
122	IRONMONGERY FROM LISTED PROPRIETARY RANGES	Revised
317	PERFORMANCE SPECIFICATION FOR SINGLE AXIS DOOR HINGES	Deleted
475A	PERFORMANCE SPECIFICATION FOR ELECTROMAGNETIC HOLD OPEN/ SWING-FREE DEVICES (24 V)	Deleted
651A	PERFORMANCE SPECIFICATION FOR PULL HANDLES	Deleted
670A	PUSH PLATES	Deleted
725	FINGER GUARDS	Deleted
895	DOOR MOUNTED AIR TRANSFER GRILLES	Deleted
896	DOOR MOUNTED FIRE RESISTING AIR TRANSFER GRILLES	Deleted
897	DOOR MOUNTED FIRE RESISTING AIR TRANSFER GRILLES WITH SMOKE SHUTTER	Deleted

P21 Door/ window ironmongery

To be read with Preliminaries/ General conditions.

GENERAL

118 IRONMONGERY GENERAL

- All door and window ironmongery shall be of good, robust quality and fit for purpose for use in an intensive environment (domestic quality products will not be acceptable).

122 IRONMONGERY FROM LISTED PROPRIETARY RANGES

- Source: One only of the following manufacturers/ suppliers and ranges:

THE CONTRACTOR IS TO PREPARE AN IRONMONGERY SCHEDULE FOR APPROVAL.

LISTED WITHIN THE FOLLOWING CLAUSES IS A TYPE THAT WOULD BE APPROPRIATE FOR A TYPICAL PROJECT. THE CONTRACTOR'S SCHEDULE IS TO TAKE INTO ACCOUNT THE EXISTING IRONMONGERY RANGE THROUGHOUT AND ESPECIALLY ADJACENT TO THE PROPOSED WORKS AREAS AND PREPARE A SCHEDULE WHICH IS APPROPRIATE.

Euro Sashlocks and Deadlocks

Barrels to match existing suited system

ASSA ABLOY UK

www.assaabloy.co.uk

sales@assaabloy.co.uk

T: +44 (0)845 0710882

F: +44 (0)1902 364000

School Street, Willenhall, West Midlands. WV13 3PW

Door Hinges

Royde & Tucker Ltd

Bilton Road, Cadwell Lane, Hitchin SG4 0SB

- GENERAL ENQUIRIES

Tel: 01462 444444

Fax: 01462 444433

e-mail: sales@ratman.co.uk

<http://www.ratman.co.uk/>

- Sales & Marketing Director

Mr Simon Gardiner

e-mail: sgardiner@ratman.co.uk

Door Furniture

HEWI (UK) Ltd

www.hewi.co.uk

nbs@hewi.co.uk

T: +44 (0)1634 258200

F: +44 (0)1634 250099

Holm Oak Barn, Beluncle Halt, Stoke Road. ME3 9NT .

- Notification: Submit details of selected range, manufacturer and/ or supplier.
- Principal material/ finish: Submit proposals .
- Items unavailable within selected range: Submit proposals.

130 APPROVED SUPPLIERS

- Source: Obtain ironmongery from one of the following: as clause 122 .
- Notification: Submit details of selected supplier.

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 all ironmongery .
 - 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: Submit CERTIFIRE certificates .
- Melting point of components (except decorative non functional parts): 800°C minimum.

180 CATEGORY OF DUTY FOR DOOR IRONMONGERY

- Standard: To DD 171.
 - Category of duty of doors: Severe 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.

DOOR HANGING DEVICES

316 PERFORMANCE SPECIFICATION FOR SINGLE AXIS DOOR HINGESINTERNAL DOORS - GENERALLY

- Standard: To BS EN 1935.
 - Hinges to doors on escape routes and fire/ smoke control doors: CE marked.
- Minimum classification grades:
 - Safety: 1.
 - Others to be agreed .
- Type: Lift off .
- Size: 102 x 76 mm .
- Material/ finish: Satin stainless steel, grade 1.4401 (316) .
- Other requirements: Radiused corners .

DOOR OPERATING DEVICES

415A PERFORMANCE SPECIFICATION FOR OVERHEAD DOOR CLOSERSINTERNAL DOORS - GENERALLY

- Standard: To BS EN 1154.
 - Door closing devices to fire/ smoke control doors: CE marked.
 - Minimum classification grades:
 - Durability: 8.
 - Safety: 1.
 - Others to be agreed .
 - Type: Face fixed .
 - Other functions: Back check and delayed closing .
 - Casing finish: Satin anodized aluminium .
 - Operational adjustment:
 - Variable power: Matched to the sizes and weights of doors.
 - Latched doors: Override latches and/ or door seals when fitted.
 - Unlatched doors: Hold shut under normal working conditions.
- Closing against smoke seals of fire doors: Positive. No gaps.

DOOR SECURING DEVICES

527 PERFORMANCE SPECIFICATION FOR DOOR LOCKS AND LATCHES GENERALLY

- Standard: To BS EN 12209.
- Minimum classification grades:
 - Safety: 0
 - Others to be agreed.
- Backset: 57 mm.
- Material/ finish: Satin stainless steel faceplate.
- Keying: Suited to existing building master key.

575A PERFORMANCE SPECIFICATION FOR EMERGENCY EXIT DEVICESGENERALLY

- Standard: To BS EN 179.
 - Emergency exit devices for locked doors on escape routes: CE marked.
- Minimum classification grades:
 - Category of use: 3.
 - Safety: 1.
 - Type of operation: A: Lever handle operation.
 - Others to be agreed .
- Material/ finish: Satin anodized aluminium .
- Additional requirements: External locking attachment to be suited with other locks .

DOOR FURNITURE

600A DOOR SIGNS

Backplate:

- Material: Rigid plastic.
- Edges: Rounded
- Size: 50mm high plate, generally

Text:

- Colour: Black text engraved.
- Font: Helvetica
- Size: 20mm high letters, unless stated otherwise.
- Braille: Required.

Fixing: Screw fixed to door.

623A PERFORMANCE SPECIFICATION FOR LEVER HANDLE SETSGENERALLY

- Standard: To BS EN 1906.
- Minimum classification grades:
 - Category of use: 3 .
 - Durability: 7 .
 - Door mass: - (no classification).
 - Fire resistance: 1 .
 - Safety: 1 .
 - Corrosion resistance: 3 .
 - Security: 2 .
 - Type of operation: B .
- Style: Round pattern with return to door .
- Size: 19 mm diameter .
- Material/ finish: Satin anodized aluminium .
- Mounting: Sprung rose with bolt through fixing .
- Additional requirements: None .

690A KICK PLATESGENERALLY - TO PUSH SIDE OF DOOR ONLY

- Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice .
- Size: (Width of door - Width of stops) x 225 mm high .
- Material/ finish: Satin anodized aluminium .
- Mounting: Face fix .
- Additional requirements: Rounded edges and radiused corners .

710A ESCUTCHEONSGENERALLY

- Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice .
- Material/ finish: Satin anodized aluminium .
- Keyhole type: Euro profile cylinder .
- Usage: To cylinder locks where no handle backplate is specified to be fitted .

720 DOOR STOPS

- Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice .
- Type: Floor mounted rubber buffer on stainless steel shoe for concrete fixing .
- Usage: To doors opening against walls other than those fitted with closers with a back check facility .

860 DOOR SEALS FOR: _____ PROOFINGACOUSTIC AND FIRE CONTROL

- Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice .
- Type: Elastomeric wiping strip in metal carrier .
- Size: To suit door .
- Material/ finish: Satin anodized aluminium .

Q
Paving/Planting/Fencing/Site furniture

Q10
Kerbs/ edgings/ channels/ paving accessories

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q10 Kerbs/ edgings/ channels/ paving accessories

To be read with Preliminaries/General conditions.

TYPES OF KERBS/EDGINGS AND CHANNELS

110 PROPRIETARY PRECAST CONCRETE KERBS

- Standard: To BS EN 1340.
- Manufacturer: Contractor's choice.
- - Product reference: Submit proposals.
- Recycled content: Contractor's choice.
- Designations:
 - EF Edging, flat top 50 x 150, 200 or 250 mm TO EDGE OF PAVED AREAS.
- Size (width x height x length): As above.
- Special shapes: None.
- Finish: As cast.
- Colour: Grey.
- Bedding: Cement mortar.
- Joints generally: Narrow mortar.
- Sealant movement joints: Not required.
- Accessories: 10mm compressible insulation board.

ROADS/PAVING ACCESSORIES/MARKING

LAYING

510 LAYING KERBS, EDGINGS AND CHANNELS

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

520 ADVERSE WEATHER

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

540 CEMENT MORTAR BEDDING

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

610 ANGLE KERBS

- Usage: Internal and external 90° changes of direction.
- Cutting of mitres: Not permitted.

620 ACCURACY

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

625 REGULARITY OF PAVED SURFACES

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

630 NARROW MORTAR JOINTS

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

Q20
Granular sub-bases to roads/ pavings

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q20 Granular sub-bases to roads/ pavings

To be read with Preliminaries/ General conditions.

110A THICKNESSES OF SUB-BASE/ SUBGRADE IMPROVEMENT LAYERS

- Thicknesses: See sections:
 - Q25 Slab/brick/sett/cobble pavings.

120 CHECKING OF SUBGRADES

- Anticipated subgrade conditions:
 - Soil type: The specified thicknesses of sub base or bases are based on an assumed CBR as noted in the soil report. If the sub grade material appears to be different from this, or if there are extensive soft spots, test CBR of sub grade report results to CA, and if different from the assumed CBR, obtain instructions before proceeding with laying sub base.
 - Plasticity index: N/A.
 - CBR (minimum): N/A.
 - Depth below formation level to groundwater table: N/A.
- Subgrade variation: If material appears to vary from anticipated conditions, or if there are extensive soft spots, report condition and submit proposals .
- Submit: Results and obtain instructions before proceeding.

130 HERBICIDES

- Type: Contractor's choice.
- Application: To subgrade of - AS REQUIRED.

140 EXCAVATION OF SUBGRADES

- Final excavation to formation or subformation level: Carry out immediately before compaction of subgrade.
- Soft spots and voids: Give notice.
- Old drainage and service trenches: Excavate to remove soft or damaged material, then backfill with specified granular sub-base material and compact..
- Wet conditions: Do not excavate or compact when the subgrade may be damaged or destabilized.

145 PREPARATION AND COMPACTION OF SUBGRADES

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

180 NOTICE

- Give notice: For inspection of granular sub-base material before spreading.
 - Period of notice: 2 working days.

211 GRANULAR MATERIAL

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

220 FROST SUSCEPTIBLE GRANULAR MATERIAL

- Definition (non frost susceptible material): To Highways Agency 'Specification for highway works' clause 801.8.
- Depth of frost susceptible material below final surface of paving (minimum): as described by Department of Transport Specification for highway works Clause 705.5, must not be used within 450 mm of the final surface of the paving. Test materials used if required by CA and supply certificate(s) accordingly.
- Testing: Test materials used if required and supply certificates.

230 PLACING GRANULAR MATERIAL GENERALLY

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

250 LAYING GRANULAR SUB-BASES FOR PEDESTRIAN AREAS

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

310 ACCURACY

- Permissible deviation from required levels, falls and cambers (maximum):
 - Subgrades:
 - Roads and parking areas: +20 -30 mm.
 - Footways and recreation areas: ± 20 mm.
 - Sub-bases:
 - Roads and parking areas: ± 20 mm.
 - Footways and recreation areas: ± 12 mm .

330 COLD WEATHER WORKING

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

340 PROTECTION

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

Q25
Slab/ brick/ sett/ cobble pavings

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q25 Slab/ brick/ sett/ cobble pavings

To be read with Preliminaries/ General conditions.

GENERAL

PRODUCTS

315A CONCRETE FLAG PAVING

- Manufacturer: Aggregate Industries – Charcon Commercial Hard Landscaping.
 - Web: www.charcon.com.
 - Email: landscaping@aggregate.com.
 - Product reference: Academy Flag Paving
- Size: 600 x 600 mm.
- Thickness: 50 mm.

390 SAND FOR FLEXIBLE LAYING COURSE AND JOINTING OF CONCRETE FLAG PAVING GENERALLY.

- Standard: To BS 7533-4, unbound construction laying course and jointing material.
- Purity: Free from deleterious salts, contaminants, lime and cement.
- Procurement: Obtain from one source and ensure consistent grading.

EXECUTION

610 MATERIAL SAMPLES

- Samples representative of colour and appearance of designated materials: Submit before placing orders.
 - Designated materials: Concrete slab paving .

620 ADVERSE WEATHER

- General:
 - Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
- Paving with mortar joints and/ or bedding:
 - Protect from frost damage, rapid drying out and saturation until mortar has hardened.
- Paving laid and jointed in sand:
 - Stockpiled bedding sand: Protect from saturation.
 - Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.
 - Saturated sand bedding: Remove and replace, or allow to dry before proceeding.
 - Laying dry-sand jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

625 LAYING PAVINGS - GENERAL

- Appearance: Smooth and even with regular joints and accurate to line, level and profile.
- Falls: To prevent ponding.
- Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
 - Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
- Slopes: Lay paving units upwards from the bottom of slopes.
- Paving units: Free of mortar and sand stains.
- Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

630 LEVELS OF PAVING

- Permissible deviation from specified levels:
 - Generally: ± 6 mm.
- Height of finished paving above features:
 - At gullies: +6 to +10 mm.
 - At drainage channels and kerbs: +3 to +6 mm.

637 REGULARITY OF PAVED SURFACES

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

640 COLOUR BANDING

- General: Unless premixed by manufacturer, select from at least 3 separate packs in rotation to avoid colour banding.

645 PROTECTION

- Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
- Materials storage: Do not overload pavings with stacks of materials.
- Handling: Do not damage paving unit corners, arrises, or previously laid paving.
- Mortar bedded pavings: Keep free from traffic after laying:
 - Pedestrian traffic (minimum): 4 days.
 - Vehicular traffic (minimum): 10 days.
- Access: Restrict access to paved areas to prevent damage from site traffic and plant.

650 CEMENTITIOUS BASES AND SUB-BASES

- General: Protect from moisture loss, if not covered by another pavement course within 2 hours of completion.

655 CONDITION OF SUB-BASES/ BASES BEFORE SPREADING LAYING COURSE

- Trenches and excavation of soft or loose spots in subgrade: Fill and thoroughly compact.
- Granular surfaces: Lay and compact so as to be sound, clean, smooth and close-textured enough to prevent migration of bedding/ laying course materials into the sub-base during compaction and use, free from movement under compaction plant and free from compaction ridges, cracks and loose material.
- Prepared existing and new bound bases (roadbases): Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
- Sub-base/ Roadbase level tolerances: To BS 7533-7, Annex A.
- Levels and falls: Accurate and within the specified tolerances.
- Drainage outlets: Within 0-10 mm of the required finished level.
- Features in sand bedded paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
- Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

COMPLETION

915 COMPLETION OF PAVING WITH DRY SAND OR FINE AGGREGATE FILLED JOINTS

- Sand dressing: Leave a thin layer of dry jointing sand over the paving, sweep clean before practical completion.
- Final compaction of the surface course: In accordance with BS 7533-3.
- Vacuum cleaning machines: Not allowed.

**Q40
Fencing**

Section Revision History

No.	Purpose
0	TENDER

13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q40 Fencing

To be read with Preliminaries/ General conditions.

FENCING SYSTEMS

310A CLOSE BOARDED FENCING

- Standard: To BS 1722-5, type BW 180A.
- Height: 1800 mm.
- Wood: Softwood.
 - Treatment: To provide a 30 year service life.
- Boards/ rails: Softwood feather edged boards on arris rails.
- Posts: Wood.
- Centres of posts (maximum): 2.4 m.
- Method of setting posts: 300 mm square or round holes, 600 mm deep filled to not less than half the depth with concrete .
- Accessories: Single swing double gates.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-5.

EXECUTION

710 INSTALLATION GENERALLY

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

715 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.
 - UKAS Sector Scheme 2A sub categories: (d).
 - UKAS Sector Scheme 2C sub categories: (a).

720 SETTING POSTS IN CONCRETE

- Standard: To BS 8500-2.
- Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
- Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
- Admixtures: Do not use.
- Holes: Excavate neatly and with vertical sides.
- Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
- Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

730 EXPOSED CONCRETE FOUNDATIONS

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

740 SETTING POSTS IN EARTH

- Holes: Excavated neatly, with vertical sides and as small as practicable to allow refilling.
- Filling: Position posts/ struts and replace excavated material, well rammed as filling proceeds.

750 DRIVEN POSTS

- Damage to heads: Minimize.
Repair: Neatly finish post tops after installation.

760 NAILED WOOD RAILS

- Length (minimum): Two bays, with joints in adjacent rails staggered.
- Fixing: Nail each length of rail to each post with two 100 mm galvanized nails.
- Rails with split ends: Replace.

766 ARRIS RAILS

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

770 SITE CUTTING OF WOOD

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

780 MAKING GOOD GALVANIZED SURFACES

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

790 SITE PAINTING

- Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

COMPLETION

910 CLEANING

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

920 FIXINGS

- All components: Tighten.
Timing: Before handover.

930 GATES

- Hinges, latches and closers: Adjust to provide smooth operation. Lubricate where necessary.
Timing: Before handover.

Q50
Site/ street furniture/ equipment

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Q50 Site/ street furniture/ equipment

To be read with Preliminaries/ General conditions.

GATES, BARRIERS AND PARKING CONTROLS

192A FOLD DOWN BOLLARD

- Manufacturer: Marshalls Street Furniture.
 - Web: www.marshalls.co.uk/streetfurniture.
 - Email: msf.sales@marshalls.co.uk.
 - Product reference: Rhino RT KEY OP1 Fold Down Bollard
- Colour: RAL tbc.
- Accessories: Reflective discs.

SITE AND STREET FURNITURE

INSTALLATION

510 CONCRETE FOUNDATIONS GENERALLY

- Standard: To BS 8500-2.
- Concrete: Designated, not less than GEN 1.
- Admixtures: Do not use.
- Foundation holes: Neat vertical sides.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 SETTING COMPONENTS IN CONCRETE

- Holes: 250 x 250 x minimum 300 mm deep.
- Components: Accurately positioned and securely supported.
- Concrete fill: Fully compacted as filling proceeds.
- Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.

R **Disposal systems**

R11
Above ground foul drainage systems

R11 Above ground foul drainage systems

To be read with Preliminaries/ General conditions.

GENERAL

115 ABOVE GROUND FOUL DRAINAGE SYSTEM

- Sanitary and floor drainage outlets: Sanitary fittings as section N13.
- Waste pipework: PVC.
- Discharge stack and branch pipework: PVC.
- Separate ventilating pipework: PVC-U .
- Accessories: Air admittance valves.
- Disposal: To existing below ground drainage.

SYSTEM PERFORMANCE

210 DESIGN

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

220 COLLECTION AND DISTRIBUTION OF FOUL WATER

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

PRODUCTS

350 MUPVC OR PVC-C PIPEWORKFOR WASTES

- Material and standard:
 - MUPVC: To BS 5255 and Kitemark certified; or
 - PVC-C: To BS EN 1566-1, and Kitemark certified.
- Application area code: B.
Opening dimensions of access fittings, design of swept fittings, stand off dimensions of pipe and fitting brackets and requirements for adaptors and plugs: To BS 4514.
- Manufacturer: Marley Plumbing & Drainage.
 - Web: www.marley.co.uk.
 - Email: marketing@marleyext.com.
 - Tel: +44 (0)1622 858888.
 - Fax: +44 (0)1622 858725.
 - Address: Dickley Lane, Lenham, Maidstone. ME17 2D.
 - Product reference: MUPVC Solvent Weld Waste System.
- Nominal sizes: 32 mm.
40 mm.
50 mm.
- Colour: White where exposed to view.
- Brackets: Plastics pipe clips, colour to match pipes.
 - Fixings: Stainless steel screws.
 - Size: 30 x 3.5 mm.
- Accessories: Access fittings.

365 PVC-U PIPEWORKFOR WASTE PIPEWORK AND DISCHARGE STACKS AND BRANCHES INCLUDING AIR ADMITTANCE VALVES

- Standard: To BS EN 1329-1, Kitemark certified.
 - Weather resistance, connectors to WC pans, opening dimensions of access fittings, design of swept fittings, stand off dimensions of pipe and fitting brackets and requirements for adaptors and plugs: To BS 4514.
- Manufacturer: Marley Plumbing & Drainage.
 - Web: www.marley.co.uk.
 - Email: marketing@marleyext.com.
 - Tel: +44 (0)1622 858888.
 - Fax: +44 (0)1622 858725.
 - Address: Dickley Lane, Lenham, Maidstone. ME17 2DE.
 - Product reference: PVC-U Soil and Vent System.
- Joint type: Solvent weld.
- Nominal sizes: DN 110.
- Colour: Grey.
- Brackets: Plastics pipe clips, colour to match pipes.
 - Fixings: Stainless steel screws.
 - Size: 30 x 3.5 mm.
- Accessories: Access fittings;
 - Plastics cages;
 - Weathering collars;
 - WC Connectors;
 - Floor Outlet components.
- Air admittance valves Standard: To BS EN 12380 or Agrément certified.
- Minimum air flow rate: To BS EN 12056-2.

383 INSULATION TO INTERNAL PIPELINES

- Manufacturer: Rockwool Ltd.
 - Web: www.rockwool.co.uk.
 - Email: info@rockwool.co.uk.
- Product reference: Fire Duct Slab.
 - Fire Duct Section.
 - Fire Duct PSM
 - Part of the Firepro range of fire protection products, Fire duct systems provide fire protection and thermal and acoustic insulation for circular and rectangular ductwork. All Fire duct products are supplied faced on one side with reinforced aluminium foil.
 - Fire Duct Slab:
 - For rectangular ducts.
 - Size: 1200 mm x 2000 mm.
 - Surface Spread of Flame: Class 1 to BS 476-7.
 - Non-combustible: ISO 1182.
 - Thermal Conductivity: 0.035 W/mK at 10°C.
 - Fire Duct Section:
 - For circular ducts between 17 mm and 610 mm diameter.
 - Fire Duct PSM:
 - Manufactured from Fire Duct Slab with factory-machined grooves to suit specific duct diameters. For circular ducts greater than 406mm diameter.
- Material: Aluminium foil faced mineral wool..
- Thermal conductivity (maximum): Not applicable.
- Thickness: 50 mm.
- Fire performance: Certified to BS 476-24 Type 'A' and 'B': Up to 2 hour fire protection for stability, integrity and insulation.
- Accessories:
 - Firepro glue.
 - Pigtail screws.
 - Welded steel pins.

EXECUTION

601 INSTALLATION GENERALLY

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

605 PIPE ROUTES

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

610 **FIXING PIPEWORK**

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

615 **FIXING VERTICAL PIPEWORK- MUPVC OR PVC-C**

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

620 **FIXING LOW GRADIENT PIPEWORK- MUPVC OR PVC-C**

- Bracket fixings: Plugged and screwed into masonry.
- Distance between bracket fixing centres (maximum): 900 mm.

630 **JOINTING PIPEWORK - GENERALLY**

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

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

- Jointing: Solvent welded with lubricated ring seal joints at maximum 1800 mm spacing.

685 **IDENTIFICATION OF INTERNAL FOUL DRAINAGE PIPEWORK**

- Markings: To BS 1710.
 - Type: Black bands, with arrows to indicate direction of flow.
 - Wording: White lettering 'FOUL DRAINAGE' on a black background.
- Type: Integral lettering on pipe wall, self-adhesive bands or identification clips.
- Locations: At 500 mm centres, junctions and both sides of slabs, valves, appliances, bulkheads and wall penetrations.

695 **DISCHARGE AND VENTILATING STACKS**

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

700 **INSTALLING AIR ADMITTANCE VALVES**

- Position: Vertical, above flood level of highest appliance served and clear of insulation materials (other than the manufacturer's insulating cover).
- Connection to discharge stack: Allow removal for rodding, e.g. ring seal.
- Roof spaces and other unheated locations: Fit manufacturer's insulating cover.

703 FIXING INSULATION TO INTERNAL PIPELINES

- Fixing: Secure and neat. Provide continuity at supports and leave no gaps. Fix split pipe insulation with the split on 'blind' side of pipeline.
 - Method: Mechanical fasteners.
- Timing: Do not fit insulation until completion of pipe airtightness or leakage testing.

705 ACCESS FOR TESTING AND MAINTENANCE

- General: Install pipework with adequate clearance to permit testing, cleaning and maintenance, including painting where necessary.
- Access fittings and rodding eyes: Position to avoid obstruction.

COMPLETION

900 TESTING GENERALLY

- Dates for testing: Give notice.
 - Period of notice (minimum): 5 working days.
- Preparation:
 - Pipework: Securely fixed and free from obstruction and debris.
 - Traps: Filled with clean water.
- Testing:
 - Supply clean water, assistance and apparatus.
 - Do not use smoke to trace leaks.
- Records: Submit a record of tests.

905 PIPEWORK AIRTIGHTNESS TEST

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

910 SIPHONAGE AND BACK PRESSURE TESTS

- Method:
 - WC pans: Test by flushing.
 - Other appliances: Test by filling to overflow level, then removing the plug.
- Number of tests: Test each appliance three times. Recharge traps before each test.
- Self siphonage testing: Test each appliance individually.
- Induced siphonage and back pressure testing: Test by discharging the following numbers of appliances simultaneously on each stack:
 - WCs: 1 - 4.
 - Washbasins: 1-4.
 - Sinks: 1-4.
 - Selection of appliances: Submit proposals.

915 PREHANDOVER CHECKS

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

920 SUBMITTALS

- Manufacturer's instructions for grease traps: Handover at completion.

Z

Building fabric reference specification

Z01
Timber procurement
Revision 3

Section Revision History

No.	Purpose	
0	TENDER	8th May 2015
3	TENDER	30th Mar 2016

Clauses amended in Revision 3

No.	Clause	
99	TO BE READ WITH PRELIMINARIES/GENERAL CONDITIONS	Revised

Z01 Timber procurement

TIMBER PROCUREMENT

TO BE READ WITH PRELIMINARIES/GENERAL CONDITIONS

101 DEFINITION OF TIMBER

For the purposes of the Contract Specification _timber_ is deemed to include any product that at some stage in its creation requires the felling of trees and use of the timber so obtained. Such products range from lumber or timber in its raw state to those where the manufacturing processes obscure the wood element.

Paper is an example of a wood product where the wood element has been obscured.

Timber supplied or used in performance of the contract that has been reclaimed or re-used is referred to as _re-cycled_ timber and is further defined below. Timber supplied or used in performance of the contract that is not recycled is referred to as _virgin_ timber when the distinction needs to be made for clarity. Where the term _timber_ is used as a generic term it

102 CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES (CITES)

The Contractor shall ensure that no virgin timber it procures for supply or use in performance of the contract shall have derived from any species of tree that is protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) unless the supplier can prove, by producing official documentation, that he has complied with the CITES requirements that permit trading in the particular species of tree so listed under that Convention.

103 RECYCLED TIMBER

Recycled timber in the context of this Contract means recovered wood that has been in previous use and is no longer used for the purpose for which the trees from which it derives were originally felled. The terms _recycled_, _reclaimed_ and _re-used_ are interchangeable and cover the following categories: pre consumer recycled wood and wood fibre or industrial by products but excluding sawmill co products (sawmill co products are deemed to fall within the category of virgin timber), post consumer recycled wood and wood fibre and drift wood.

104 LEGAL TIMBER

All virgin timber procured by the Contractor for supply or use in performance of the contract shall be Legal Timber and Legally Traded Timber. The terms _Legal Timber_ and _Legally Traded Timber_ in the context of this Contract Condition refer to the propriety of tree felling in the forest or plantation where the trees in question were grown. The contractor is required to ensure that the organisation or body that felled the trees and provided the timber from which the wood supplied under the Contract derived had legal use rights to the forest, holds a register of all local and national laws and codes of practice relevant to forest operations, complied with all relevant local and national laws and codes of practice including environmental, labour and health and safety laws and paid all relevant royalties and taxes.

105 PROOF OF LEGAL TIMBER

The Contractor shall before delivering any timber under this contract, obtain documentary evidence that the timber is both _legal timber_ and _legally traded timber_. If requested in writing by the Employer, the Contractor shall submit such documentary evidence to the Employer either prior to delivery or at such other times as the Employer may require. The Contractor shall identify, as part of the evidence submitted a chain of custody from the source of the timber through to delivery of the final product.

The Employer reserves the right at any time during the execution of the Contract and for a period of 6 years from final delivery under the Contract to require the Contractor to produce the evidence required for the Employer's inspection within 14 days of the Employer's written request.

The Contractor shall maintain records of all timber delivered to and accepted by the Employer. Such information shall be made available to the Employer if requested at any time.

The Employer reserves the right to decide whether the evidence submitted to demonstrate legality is adequate to satisfy the Employer that the timber is 'legal timber' and/or legally traded timber_. In the event that the Employer is not so satisfied, the Contractor shall, on written request by the Employer, commission and meet the costs of an independent report to (a) verify the source of the timber or wood and (b) assess whether the trees used were legally felled.

In this Contract _Independent Verification_ means a report by an individual or body whose organisation, systems and procedures conform to ISO Guide 65:1996 (EN45011:1998) General requirements for bodies operating product certification systems: and who is accredited to audit against forest management standards by a national or international body whose organisation, systems and procedures conform to ISO Guide 61 General Requirements for Assessment and Accreditation of Certification Bodies.

Where the Contract requires the Contractor to acquire _sustainable_ timber, as defined in the Specification, and to submit evidence to demonstrate compliance, the Employer reserves the right to decide whether the evidence of forest management is sufficient to satisfy the Employer that the specification has been fully complied with. In the event that the Employer is not so satisfied, the Contractor shall, on written request by the Employer, commission and meet the costs of an independent report to (a) verify the source of the timber or wood and (b) assess whether the forests of origin were managed in accordance with the specified quality standards.

In this context _independent_ has the same meaning as defined for the assessment of legal timber.

106 PROOF OF SOURCE OF RECYCLED TIMBER

The requirements of this section for documentary evidence and independent verification shall also apply to recycled timber.

107 EMPLOYER'S RIGHT TO REJECT TIMBER

The Employer reserves the right to reject any timber that does not comply with the provisions of these Conditions or the Contract Specification. Where the Employer exercises its right to reject any timber, the Contractor shall supply alternative timber, which does so comply at no additional cost to the Employer and without causing delay to the Contract completion period.

Z02

**Variant specification for timber from a sustainable
source**

Section Revision History

No.	Purpose
0	TENDER

8th May 2015

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Z02 Variant specification for timber from a sustainable source

VARIANT SPECIFICATION FOR TIMBER FROM A SUSTAINABLE SOURCE

TO BE READ WITH PRELIMINARIES/GENERAL CONDITIONS

101 SUSTAINABLE TIMBER

The Contractor shall take all reasonable steps to ensure that at least 70% of each category of timber acquired by the Contractor for supply or use in the performance of the contract shall be either - (a) "recycled wood"; or (b) "virgin " timber from a well managed forest source as defined below; or (c) a combination of (a) and (b). The General Conditions of Contract define these terms.

A category in this context means timber supplied for a specific purpose distinct from that for which other timber is required. For example, hardwood window frames, wall panelling, floor joists, furniture, site hoardings are each separate categories.

The terms "sustainable sources" and "sustainable forest" or "well managed forest" in the context of this Contract Specification refer to production and process methods, hereinafter referred to as sustainable forest management standards, which sustain forest biodiversity, productivity and vitality, and minimise harm to ecosystems, including people, that depend on forests for their well being.

102 SUSTAINABLE FOREST MANAGEMENT STANDARDS

When supplying or using virgin timber the Contractor is required to obtain such virgin timber from forests that are managed in accordance with a documented management plan that has been compiled in accordance with the recommendations contained in ISO/IEC Guide 59: code of good practice for standardisation or equivalent.

The standards and criteria set for demonstrating attainment of such standards will be acceptable to the Employer only if they can be independently verified as appropriate for meeting the sustainable forest management standard objectives specified in clause 101. Management of the forest or plantation shall be audited at intervals consistent with good forest management and by organisations independent of the forest owner with appropriate forest management experience.

Z12
Preservative/ fire retardant treatment

Section Revision History

No.	Purpose
0	TENDER

18th Mar 2016

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Z12 Preservative/ fire retardant treatment

To be read with Preliminaries/ General conditions.

110 TREATMENT APPLICATION

- Timing: After cutting and machining timber, and before assembling components.
- Processor: Licensed by manufacturer of specified treatment solution.
 - Operatives: Preferably WPA trained.
- 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.

162A WATER-BASED MICROEMULSION PRESERVATIVE TREATMENT

- Manufacturer: Lonza Wood Protection .
 - Web: www.lonzawood.com.
 - Email: timberprotectionadvice.ukca@lonza.com.
 - Product reference: Vacsol Aqua.
- VACSOL Aqua treated timber has been double-vacuum (Vac-Vac®) pressure impregnated under controlled conditions using VACSOL Aqua preservative. Treated timber is typically for use in internal and external building applications above DPC, e.g. timber frame components, roof and flooring timbers and external joinery components. Principal substrates are softwood timbers, plywood and some hardwoods. Exterior woodwork should subsequently be protected with a maintained surface coating. Where cross cutting, boring or notching has to be carried out, the area of exposed timber must be liberally brushed with VACSELE end grain preservative in accordance with manufacturer's instructions. Vacsol Aqua conforms to the efficacy requirement of BS EN 599-1/ BS 8417. Timber is treated in accordance with the penetration and retention guidance given in BS EN 351-1 to give a desired service life in the selected Use Class defined in BS EN 335-1. Refer to Arch Timber Protection Code of Practice document for further details, or alternatively contact the Arch Timber Protection Product Advisory Service.
- Application category:
 - Standard: To BS EN 335-1
 - Use class:
 - Use class 1: Wood is under cover and not exposed to the weather and wetting.
 - Use class 2: Wood is under cover and not exposed to the weather but humidity can lead to occasional wetting.
 - Use class 3: Wood is not under cover and not in contact with the ground but subject to wetting.

180 RECYCLED TIMBER CONTAINING CREOSOTE OR CHROMIUM/ ARSENIC BASED PRESERVATIVE

- Usage: Not permitted.

610 MAKING GOOD TO PRESERVATIVE TREATMENT ON SITE

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

Z20
Fixings and adhesives

Section Revision History

No.	Purpose
0	TENDER

8th May 2015

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Z20 Fixings and adhesives

To be read with Preliminaries/ General conditions.

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 WOOD 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.

**Z22
Sealants**

Section Revision History

No.	Purpose
0	TENDER

8th May 2015

Clauses amended in Revision 0

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

Z22 Sealants

To be read with Preliminaries/General conditions.

PRODUCTS

310 JOINTS

As specified in the relevant section.

- 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: Submit proposals for rectification.

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.