

26348 Truro YPC - General Works (2016)

28 July 2016

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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	15th Apr 2016

Clauses amended in Revision 4

No.	Clause	
230A	LINING BOARD	Added

K10 Plasterboard dry linings/ partitions/ ceilings

To be read with Preliminaries/ General conditions.

TYPES OF DRY LINING

126A METAL STUD PARTITION SYSTEM - INTERNAL WALL TYPE 2

- Manufacturer: British Gypsum.
 - Web: www.british-gypsum.com.
 - Email: bgtechnical.enquiries@bpb.com.
 - Product reference: GypWall Classic. A206142.

A light, non-loadbearing, internal wall system suitable for all types of buildings, including residential, commercial and healthcare. Approved for use in hospitals by the Department of Health and the Welsh Office (refer to HTM 56, Partitions).

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.

Performance:

Strength and robustness: Satisfies BS 5234 requirements up to Severe Duty.

- Studs:
 - Type: 70 mm Gypframe 70 S 50 'C' studs.
 - Centres: 600 mm
- Head condition: Gypframe 72 C 50 Floor and Ceiling Channels, fixed to underside of structural soffit.
 - Deflection allowance: 15mm.
- Insulation: Isover APR 1200.
 - Thickness: 50 mm.
- Linings: 2 x 12.5 mm Gyproc WallBoard to each side **OR** 1 x 12.5 mm Gyproc WallBoard **A ND** 1 x 12.5mm Gyproc Moisture Resistant where required.
 - Edge: Square edged.
- Finishing: Skim coat plaster finish.
 - Primer/ Sealer: 2 coats of Gyproc Drywall Sealer.
- Accessories: Rigid beads/ stops.
- Other requirements:
 - Access panels where indicated on M&E drawings.
 - Fire stopping around services as Section P12.
 - 12mm Plywood patresses fitted between studs to accommodate any heavy wall mounted fixtures, dependent on load.
 - In order to achieve the required performances, all systems should comply to BS 8212:1995 Code of Practice for drylining and partitioning using gypsum plasterboard, as well as BS 8000 Workshop on building sites Part 8:1989 Code of Practice for plasterboard partitions and drylinings.

230A LINING BOARD - 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.

K11
Rigid sheet flooring/ sheathing/ decking/ sarking/
linings/ casings
Revision 1

Section Revision History

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

Clauses amended in Revision 1

No.	Clause	
485A	CEMENT PARTICLE BOARD	Deleted

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

To be read with Preliminaries/ General conditions.

TYPES OF FLOORING/ SHEATHING/ DECKING/ SARKING/ LINING/ CASINGS

110 WOOD-BASED SHEETS GENERALLY

- Standard: To BS EN 13986.
 - Evidence of compliance: All sheets to be CE marked. Submit Declaration of Performance (DoP).

112 PLYWOOD PANELS GENERALLY

- Size of plywood panels - 2400x600x18mm WBP plywood or moisture resistant chipboard tongue and grooved sheets are to be used (2400x1200x18mm sheet sizes are prone to buckling and are not acceptable.)

415A PLYWOOD TO STUD PARTITIONS

- Substrate: Timber studs as Section K10.
 - Additional supports: As required.
- Sheathing: Plywood manufactured to the relevant standards and quality control procedures specified in BS EN 636, and so marked.
 - Type: Finnish birch-faced plywood.
 - Grade:
 - Face veneer appearance class to BS EN 635: Class II. - Grade S to SFS 2413.
 - Reverse veneer appearance class to EN 635: Class IV. .
 - Nominal thickness/ number of plies: 9mm.
 - Other requirements:
 - Panel size: 2400 x 600 mm nominal.
 - Edge profile: Square.
- Setting out: Long edges vertical and centred on supports.
 - Expansion gap between adjacent boards (unless otherwise recommended by manufacturer): 2-3 mm.
- Fixing to supports:
 - Fasteners: 50 x 8 mm gauge wood screws into pilot holes.
 - Fixing centres (maximum):
 - Around board edges: 75 mm.
 - Along intermediate supports: 300 mm.
 - Fixing distance from edges (minimum): 25 mm from bottom edge of board and 10 mm from other edges.

WORKMANSHIP

910 INSTALLATION GENERALLY

- Timing: Building to be weathertight before fixing boards internally.
- Moisture content of timber supports (maximum): 18%.
- Joints between boards: Accurately aligned, of constant width and parallel to perimeter edges.
- Methods of fixing, and fasteners: As section Z20 where not specified otherwise.

930 ADDITIONAL SUPPORTS

- Additional studs, noggings/ dwangs (Scot) and battens:
 - Provision: In accordance with board manufacturer's recommendations and as follows:
Tongue and groove jointed rigid board areas: To all unsupported perimeter edges.
Butt jointed rigid board areas: To all unsupported edges.
 - Size: Not less than 50 mm wide and of adequate thickness.
 - Quality of timber: As for adjacent timber supports.
 - Treatment (where required): As for adjacent timber supports.

940 BOARD MOISTURE CONTENT AND CONDITIONING

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

950 MOISTURE CONTENT TESTING

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

960 FIXING GENERALLY

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

975 METAL WALL FRAMING

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

980 OPEN JOINTS

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

990 ACCESS PANELS

- Size and position: Agree before boards are fixed.
- Additional noggings/ dwangs (Scot), battens, etc: Provide and fix as necessary.

K13
Rigid sheet fine linings and panelling

K13 Rigid sheet fine linings and panelling

To be read with Preliminaries/ General conditions.

TYPES OF LINING AND PANELLING

140A PVC-U SHEET CLADDING

- Manufacturer: Altro.
 - Web: www.altro.co.uk.
 - Email: enquiries@altro.com.
 - Product reference: Altro Whiterock
- Altro Whiterock White extruded PVCu W103/W104 is a cost-effective sheet cladding extruded from a high quality, food safe, PVC-U polymer for operating temperatures up to 60°C. It is easy to clean, impact resistant and grout-free. It meets all current EU Directives on health and hygiene and offers a cost-effective choice.
- Size: 2500 x 1220 mm.
- Thickness: 2.5mm
- Colour: TBC

GENERAL REQUIREMENTS

220 MATERIAL SAMPLES

- Representative samples of designated materials: Submit before placing orders.
 - Designated materials: Hygenic wall cladding .

260 ENVIRONMENTAL CONDITIONS

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

FABRICATION/ FIXING/ FINISHING

310 ACCURACY OF FABRICATION

- Site dimensions: Take as necessary before starting fabrication.
 - Discrepancies with drawings: Report without delay and obtain instructions before proceeding.
- Permissible deviations for panels:
 - Length: ± 1.5 mm.
 - Width: ± 1.5 mm.
 - Squareness (taking the longer of 2 sides at a corner as a baseline and measuring the deviation of the shorter side from the baseline perpendicular): ± 1.5 mm in 1 m.
 - Flatness (of panels with a core thickness of 12 mm and over, as delivered to site): ± 1 mm under a 600 mm straightedge.

350 FIXING LININGS AND PANELLING

- Setting out: Accurate, true to line and level, free from undulations and lipping, with lines and joints aligned, straight and parallel unless specified otherwise.
- Movement allowance: Adequate for future moisture and temperature movement of boards.
- Fixing of panels: Secure, to prevent pulling away, bowing, or other movement during use.
- Methods of fixing and fasteners: As section Z20 unless specified otherwise.
- Trims: Wherever possible, to be in unjointed lengths between angles or ends of runs.
 - Running joints: Where unavoidable, submit proposals for location and method of jointing.
 - Angle joints: Mitred, unless specified otherwise.

370A SILICONE SEALANT

- Manufacturer: Dow Corning.
 - Web: www.dowcorning.com/construction.
 - Email: bruce.nicol@dowcorning.com.
 - Product reference: 785 Sanitary Silicone Sealant
- 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.
- Colour: TBC.

400 DOOR FRAMES

- Hardwood packing between frames and reveals: To give even joints of specified width.
 - Position of packs: Where fixings tighten frame against structure.
- Positions of frames: Accurate, plumb, level, and aligned.
 - Fixing of frames: Secure to prevent pulling away, deflection, or other movement during use.
 - Fastener locations: 600 mm maximum centres with at least one fixing 150 mm from each end of jambs and one adjacent to each hanging point.

K40
Demountable suspended ceilings
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	11th Mar 2016
1	TENDER	18th Mar 2016
4	TENDER	15th Apr 2016

Clauses amended in Revision 4

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

K40 Demountable suspended ceilings

To be read with Preliminaries/General conditions.

TYPES OF CEILING SYSTEM**105A SUSPENDED CEILING SYSTEM 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.

" Area Sales Manager: Steve Edwards

" Mobile Number: 07771 565377

" Email Address: steve.edwards@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. Access panels/tiles as detailed on Mechanical & Electrical Engineer's details .

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.

105B SUSPENDED CEILING SYSTEM FOR WC

- Gedina E
Manufacturer: Saint-Gobain Ecophon
Web: www.ecophon.co.uk
Email: info@ecophon.co.uk
Tel: +44 (0)1256 850989
Fax: +44 (0)1256 851550
Address: Old Brick Kiln, Ramsdell, Tadley, Hampshire RG26 5PP
Product reference: Gedina E
Gedina E consists of Gedina E tiles and Connect grid. Gedina E has a recessed visible grid and a tegular edge design, creating a ceiling with a shadow effect that accentuates each tile and partially conceals the grid system. The visible surface of each tile is 7 mm below the grid. The tiles are manufactured from high density glass wool. The visible surface has an Akutex T coating and the back of the tile is covered with glass tissue. The edges are painted. The grid is manufactured from galvanized steel.
Tile size: 600 x 600 mm
- Grid: Interlocking Connect T15 with adjustable hangers
 - Trim: Connect Angle
- Accessories: None

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 BATTEN TO SUSPENDED CEILINGS - WHERE REQUIRED

- Manufacturer: -.
 - Product reference: -.
- Material: Planed softwood to BS EN 942, class J10; moisture content at time of fixing: 15% ± 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**

L20
Doors/ shutters/ hatches
Revision 4

Section Revision History

No.	Purpose	
0	TENDER	15th Mar 2016
1	TENDER	18th Mar 2016
4	TENDER	25th Apr 2016

Clauses amended in Revision 4

No.	Clause	
120	NON FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS	Added
410	WOOD DOORSETS	Deleted
412	WOOD DOORSETS	Added
413	WOOD DOORSETS	Added
480	DOORSETS	Deleted
480A	DOORSETS ALUMINIUM	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.

120 NON FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS

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

150 SITE DIMENSIONS

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

PRODUCTS**412 WOOD DOORSETS - PAINT GRADE - FD30S**

- 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: FD30S.
Acoustic rating: D.02 to be acoustic rated
Accessories: Refer to drawings.
- 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.
- Optional items: Vision Panels to D.02, D.06 and D.07.
Locking Mechanism to D.06.
Thumbturn lock to D.05.

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: Meeting room door to be acoustic rated.
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: Vision panels to office and meeting room doors.

Type: As L40:515.
- Accessories: As schedules
Ironmongery:
Hinges: Royde and Tucker Hi-Load H105 lift off hinges with 25 year guarantee
NOTE: Sliding door gear required to Changing Places
Refer to schedules for further details.
- Optional items: Factory mortising for lock to office.
Thumb turn lock to store room.

480A DOORSETS ALUMINIUMALUMINIUM

• EVIDENCE OF PERFORMANCE:

Provide independently certified evidence that all specified variants of components comply with specified performance requirements.

- The frames are to comply with all relevant British Standard Specifications, Codes of Practice, and Statutory Requirements (including all revisions and amendments), as well as the guides and recommendations laid down by the relevant trade organisation relating to their performance, constituent materials, methods of assembly and use. Any exceptions to the above are to be advised in writing by the specifier.
- All frames and other sections to be extruded to BS EN 755-9: 2001, Specification 6060 or 6063 T6.
- All materials and ancillary products are to be used and fitted entirely in accordance with the instructions of the relevant manufacturer.

DESIGN, SITE DIMENSIONS AND SURVEY

Design

- Specialist Contractor shall provide drawings to the Main Contractor depicting all profiles, glazing, weather seals, gaskets fixings and sealants to be used and the relationship of the above to the adjacent structural detail for each door type
- Specialist Contractor is to provide drawings showing the relationship of framing to structure, including all profiles, sealants, fixings, trims and weatherseals.
- Notwithstanding any information within this Specification, all framing and infills shall be capable of withstanding the design wind loadings calculated in accordance with BS6399 Pt2: 1997, and imposed loads as defined in BS6399 Pt1: 1996, and the Specialist Contractor shall carry out calculations to demonstrate this.

NOTE: Calculate inertia value of framing using Biblio/BRE and Table 4 of BS6399Pt1 (HUDLL in Kn/m – column 3). For thickness of glazed infills, refer to BS6180 Table 2 or glass manufacturer's information.

- Any packing sections or materials required to compensate for misaligned apertures shall be agreed by the Contract Administrator prior to manufacture.
- Allow for anomalies and variations in the size of the openings, and for out-of-square openings. This is to include for the manufacture of 'specials' as necessary.

Site Dimensions

- Units to be manufactured to suit prepared openings.
- Specialist Contractor to make an inspection of all relevant drawings and documents in order to ascertain all relevant conditions, structural details and site layout. No additional claim will be entertained for items that would be apparent during the inspection of documents.

Survey

- Specialist Contractor must allow in his tender for the supply of all items specified and/or required.
- Specialist Contractor to allow in his price for a survey visit to site in order to take the dimensions and adjacent structural details of every door that is to be installed
" Manufacturer: Sapa Building Systems Ltd (Ashchurch, Tewkesbury, Gloucestershire, GL20 8NB; Tel: 01684-853500).
- Product reference: Stormframe ST Thermally Broken Door and 202 Non Thermally Broken Commercial Door Systems.

" Door leaf:

GENERAL: All doors (except automatic opening doors) to be manufactured from Sapa Stormframe ST Thermally Broken commercial door system. Door frames to be square cut for jointing into splines extruded into the aluminium profiles. Door leaf profiles to be square cut and assembled with extruded aluminium brackets and clamp plates, then fixed with M8 socket cap head machine screws. The sections forming the doors are to incorporate a thermal break, achieved using an extruded glass reinforced polyamide profile mechanically joined to the profiles.

Outer frames to be fitted with closer plates or frame depth adaptor profile where coupled to adjacent window frames. The lock stile of all single Stormframe ST doors to close

against a full length rebate adaptor where ever possible (Reference ST239). Door leaves to be pivot hung, with rebated low threshold (ST238) and anti finger trap stiles as standard. Auto-Swing doors (South Elevation) to be manufactured from Sapa 202 non thermal commercial door system. Door leaves to be of mechanical cleated construction.

Automated

doors to include a heavy duty double head rail ref. 2980 (150mm) to accommodate the automatic swing door operator. (Check door height for suitable clearance).

Door designs are to be as depicted within the Door Schedule/ Drawings. Width of all doors to give a minimum clear access to comply with Approved Document M of the Building Regulations.

- Finish as delivered: All aluminium sections to be polyester powder coated to BS EN 12206-1:2004, in a standard Sapa SP range RAL colour matt finish to be agreed. To be supplied by Sapa Building Systems Ltd, using Syntha Pulvin or Interpon D systems.

" Frame and architraves: Outer frames to be fitted with closer plates or frame depth adaptor profile where coupled to adjacent window frames.

Stormframe ST and 202 door perimeter frame shall comprise 102mm outer frame, suitable for fixing direct to the building structure.

- Finish as delivered: All aluminium sections to be polyester powder coated to BS EN 12206-1:2004, in a standard Sapa SP range RAL colour matt finish to be agreed. To be supplied by Sapa Building Systems Ltd, using Syntha Pulvin or Interpon D systems.

" Glazing/ Infill details:

Glass:

- Manufacturer: Pilkington Building Products - UK Prescott Road, St Helens. WA10 3TT
Web: www.pilkington.co.uk
Email: pilkington@respond.uk.com
T: +44 (0)1744 692000
F: +44 (0)1744 692880

- Units: Glazing to be hermetically sealed double-glazed 29mm units, and to conform to Approved Documents N and L of the Building Regulations.

Composition of units to be 6.8mm laminated Pilkington Optiphon K glass inner pane, warm edged Argon filled 16mm cavity, 6mm toughened Pilkington Optifloat clear glass externally, producing a low emissivity sealed unit combining with the frames to give a centre pane uvalue of 1.5W/m²K or less (ST Door only). It has been assumed that the 202 Commercial Entrance Doors referred to in this specification will be classified as Heavy Duty and therefore require an area weighted average U value of no worse than 3.5 W/m²K.

All glass within 800mm from FFL shall be toughened or laminated. (Below 1500mm if within a door or 300mm of a door). Manifestation to be provided where required.

All glass and glazing shall conform to: EN 12600: Specification for Impact Performance; BS.6262: Parts 1-6:2005 Code of Practice for Glazing Buildings;

BS.952: 1978: Glass for Glazing;

BS EN 1279: Glass in buildings. Insulating Glass Units.

Part 1: 2004 Generalities, dimensional tolerances and rules for the system description.

Part 2: 2005 Long term test method and requirements for moisture penetration

Part 3: 2005 Long term test method and requirements for gas leakage rate and for gas concentration tolerances.

Part 4: 2002 Methods of test for the physical attributes of edge seals

Part 5: 2005 Evaluation of conformity.

Part 6: 2002 Factory production control and periodic tests .

- Manifestation: To be confirmed.

- Beading: Internal.

" Ironmongery: All manually operated doors to be hung Sapa 202/188 Approved Document M compliant concealed overhead door closers with stand open at 90°. Closer strength

selected to be compatible with physical capabilities of users, and be adjustable from EN1

– EN4. Closing speed and latching speed to be adjustable. Also to include Adams Rite

MS2200 Hooklock Deadlock operated by double cylinder, and each leaf to have 2no. 300mm Pad handles, fixed back-to-back inside and out. Flush bolts to slave leaf of double doors.

Auto swing doors to be hung on Dorma ED200 (or equal and approved) automatic door operator. Activation method to be confirmed. Also to include Adams Rite MS2200 Hooklock Deadlock operated by double cylinder, and each leaf to have 2no. 300mm Pad handles, fixed back-to-back inside and out. Flush bolts to slave leaf.

- The Specialist Contractor is to obtain the written confirmation of the Contract Administrator as to the type and position of all ironmongery before commencing manufacture.
- " Perimeter seals: EPDM weatherseal.
- " Other requirements: None.
- " Fixing: In strict accordance with manufacturer's recommendations.

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 1

Section Revision History

No.	Purpose	
0	TENDER	14th Mar 2016
1	TENDER	18th Mar 2016

Clauses amended in Revision 1

No.	Clause	
610A	FROSTED WINDOW FILM	Added

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.

630A MANIFESTATION TO DOORS/SCREENS

- Design: To be in accordance with Building Regulations.
 - Art work: None.
 - Media: Scale drawings.
- Technique: Applied film.

655 INSULATED GLASS UNITS (IGUS)GENERALLY

- Manufacturer: Contractor's choice.
 - Product reference: Submit proposals.
- Standard: BS EN 1279.
- Thermal performance (centre pane): Submit proposals.
- Construction:
 - Inner pane: Laminated safety glass.
 - Cavity: Argon.
 - Intermediate pane: Not applicable.
 - Cavity: Not applicable.
 - Outer pane: Clear toughened glass.
 - Spacer: Thermally broken.
- Unit thickness: Submit proposals.
- Other requirements: Complete window unit to be to Secure By Design standard.

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 TO SPLASHBACKS TO KITCHEN SINK AND WC

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.

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.

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.

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.

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

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

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.
- Recommended carpet layout - 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°.
- Colour: TBC.

130B CARPET TILING - ENTRANCE AREA

- 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 500mm
- Allow for all preparation and laying methods in accordance with manufacturer's recommendations.
- Colour: TBC.

150A SHEET FLOORING

- 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: 2000mm
- Thickness: 2mm
- Colour: TBC.
- Accessories: Self Coved Skirting.

155A SHEET FLOORING - 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: TBC.
- Accessories: Self Coved Skirting

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.

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.

460A 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.

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.

720 DOORWAYS

- Joint location: On centre line of door leaf.

740A FLOOR FINISH COVER STRIPS

- Manufacturer: Gradus.
 - Web: www.gradusworld.com.
 - Email: imail@gradusworld.com.
 - Product reference: Cover Strips
- Profile: TBC.
- Length: As per drawings.
- Colour: TBC

770A SKIRTINGS

- Manufacturer: Altro.
 - Web: www.altro.co.uk.
 - Email: enquiries@altro.com.
 - Product reference: Self-Coved Skirting
- Cove former: CF20R.
- Capping seal: C7.

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.

861 SLIP RESISTANCE TESTING

- Testing authority: A UKAS accredited laboratory.
- Floor covering(s) to be tested: Altro Aquarius.
- Test: To BS 7976-1, -2 and -3.
 - Floor covering condition: Dry and wet.
 - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Consultant.
- Report: Submit.

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	19th Apr 2016

Clauses amended in Revision 4

No.	Clause	
105	EGGSHELL PAINT	Added
107	EMULSION PAINT	Revised
151A	SATIN PAINT	Revised

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 Eggshell Light and Space
Ecosure 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: TBC.

107 EMULSION PAINT

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

Diamond Matt Light & Space is a water-based matt emulsion that brings a brighter, more spacious feel to a room.

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.

D8 - Painted walls to be Class O fire rating upgraded.
D20 - Painted walls to be Class 1 fire rating upgraded.
D118 - Painted walls to be Class O fire rating upgraded.
D187 - New block and concrete.
D188 - Painted walls to be Class 1 fire rating upgraded.
D189 - New plaster/ cement/ calcium silicate boards etc.
D190 - New plaster/ cement/ calcium silicate boards etc.
D191 - New plaster, render etc.
D192 - Painted wall and ceiling surfaces.
D193 - Painted wall and ceiling surfaces.
D194 - Painted wall and ceiling surfaces.
D195 - New plaster/ cement/ calcium silicate boards etc.
D198 - New block and concrete..
- Colour: Brilliant White.

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: TBC.

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
160A	SHELVING SYSTEM GENERALLY	Deleted

N10 General fixtures/ furnishings/ equipment

To be read with Preliminaries/General conditions.

PRODUCTS

- 160 **SHELVING SYSTEM FOR HYGIENE ROOM.**
- Manufacturer: www.shopfittingwarehouse.co.uk.
 - Product reference: Chrome wire shelving unit - 4 shelves - 0336501.
 - Dimensions: H900 x W750 x D350mm.
 - Shelf Spacing: Variable.
 - Shelves:
 - Material: Chrome.
 - Finish/ Colour: Chrome.
 - Carcass or frame:
 - Material: Chrome.
 - Finish/ Colour: Chrome.
 - Other components: Feet.
- 215 **COAT HOOKS WC & CHANGING PLACES**
- " Manufacturer: Binns, A.J. Ltd.
- Web: www.ajbinns.com.
 - Email: enq@ajbinns.com .
 - Product reference: VW/1 classic single coat hook.
Dimensions - 72mm height, 56mm depth, 20mm width
Single hooks use the integral moulded ABS block screw-fixed to the wall onto which the hook is secured with a grub screw. Hooks manufactured in extruded aluminium available in silver anodised aluminium or powder coated in colour combinations from the full RAL range..
- " Material: Aluminium .
- Finish/ Colour: Silver anodised .
- " Fittings: 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

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 TO UNITS

- Standard: To BS 6222-3.
- Manufacturer: Howdens Joinery Co. Southern House, 333 The Hyde, Edgeware 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, Edgeware Road, Colindale, London NW9 6TD
- Web: www.Howdens.com.
Product reference: Lamona Belmont single bowl sink.
 - Configuration: Inset single sink with right hand drainer - SNK6005.
 - 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, Edgeware 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
Revision 1

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016
1	TENDER	13th Jul 2016

Clauses amended in Revision 1

No.	Clause	
331A	SINKS	Added

N13 Sanitary appliances and fittings

To be read with Preliminaries/ General conditions.

PRODUCTS

300B CONTOUR 21 CLOSE COUPLED WC SUITE

- Manufacturer: Armitage Shanks.
 - Web: www.idealstandard.com.
 - Email: info@thebluebook.co.uk.
 - Product reference: Contour 21 close coupled raised height WC suite
- Pan: S3054 Contour 21, floor fixing kit, horizontal outlet
- Seat and cover: S4066 Contour 21 seat no cover, top fixing hinges and retaining buffers.
- Pan connector: S4305 Panekta, to convert horizontal outlet to P trap.
- Cistern:
 - Type: S3654 Contour 21 close coupled with secure cover, 4.5 litre, with Freeflo syphon, bottom supply Microvalve HP/ LP ballvalve with Whisperflo refill unit, internal overflow, close coupling fitment.
 - Operation: S4420 Spatula type reversible side lever assembly.

301C WC SUITE G.05 WC

- Manufacturer: Armitage Shanks.
 - Web: www.idealstandard.com.
 - Email: info@thebluebook.co.uk.
 - Product reference: Profile 21 close coupled WC suite
- Pan: S3092(01) Profile 21 WC pan, floor fixing kit, horizontal outlet
- Seat and cover: S4103(01) Profile 21 seat and cover.
- Pan connector: S4305 Panekta, to convert horizontal outlet to P trap.
- Cistern:
 - Type: S3094(01) Profile 21 close coupled cistern 4/2.6 litre dual flush push button valve, bottom supply and internal overflow.
 - Operation: dual flush push button.

310 DOCUMENT M PACKAGE CHANGING PLACES

- Manufacturer: Ideal Standard (UK) Ltd,
Registered Offices:
The Bathroom Works,
National Avenue,
Kingston upon Hull
HU5 4HS.
www.idealspec.co.uk
 - Product Reference: Armitage Shanks Contour 21 Doc M Peninsular Pack with white grab rails
- Supplier: Dart Valley Systems (DVS), Kemmings Close, Long Road, Paignton TQ4 7TWAs standard:
Pan: Doc M Contour 21 peninsular care pack close coupled WC. Pan fixings.
 - Material: Vitreous china.
Cistern: Water saving delay fill cistern and spatula lever. Cistern cover clips.
Seat: Seat, no cover, with retaining buffers.
Basin: Large power assisted WHB, no chainstay.
 - Fixing: TBC.
 - Tap: TMV3 mixer tap, with thermostatic mixing valve 4 in 1 - 15/22mm (D214/TMV3/4/15/22).
 - Waste: Grid waste.
Grab rails: support rails (five required).
Hinged grab rails: hinged support rails and toilet roll holder.

311A UNISEX ACCESSIBLE CORNER WC EQUIPMENT PACKAGES (DOCUMENT M)

- 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. A Doc M cc pack with an additional washbasin for standing users, which provides a unisex wheelchair toilet facility suitable for use where only one washroom exists within a building. The assembly comprises a Unisex wheelchair accessible facility with corner WC, finger rinse washbasin and an additional standing height washbasin fixed at 780–800 mm from floor to front rim.
Includes TMV3 approved thermostatic valve to help prevent scalding.
- Position: As per drawing.
- Colour: TBC.
- Wash basin:
 - Type: S2252 Portman 21 basin 500 mm, one centre taphole for monoblock, no overflow or chainstay hole.
 - Taps: A4131 Contour 21 (TP6) lever action thermostatic sequential basin mixer tap, flexible tails.
 - Waste: S8733 1¼" anti theft swivel plug waste, 80 mm slotted tail.
 - Trap: S8910 (TR1/P) 1¼" plastic bottle trap with 75 mm seal.
 - Grab rail: S6454 Contour 21 grab rail, straight 600 mm long x 35 mm diameter.
 - Accessories: S9137 Concealed bracket with clamps and centre waste support for Portman 21.
- Accessories: S4305 Panekta outlet connector, finned pattern to convert horizontal outlet WCs to P trap.

311C SHOWER: CHANGING PLACES

- Manufacturer: Armitage Shanks
 - Web: www.idealstandard.com
 - Email: info@bluebook.co.uk
 - Product Reference: Contour 21 thermostatic built-in shower mixer, lever operated
- Short projection shower head for concealed or exposed supply
- Armaglide 2 handspray, single function
- Shower hose, 1.35m long
- Lever operated shower diverter
- Contour 21 shower handset holder, sliding

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 and S8336 ½" wall mounts for concealed plumbing (pair).

335A WASH BASINS

- Manufacturer: Armitage Shanks.
 - Web: www.idealstandard.com.
 - Email: info@thebluebook.co.uk.
 - Product reference: S2311 Portman 21 500 mm Washbasin with single taphole, overflow, no chainstay hole
 - Material: Vitreous China
 - Colour: White.
- 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: S9137 Concealed bracket with clamps and centre waste support for Portman 21, 60 cm washbasins.

386A DISPOSAL UNITS

- Manufacturer: Franke Sissons Ltd.
 - Web: www.franke.co.uk.
 - Email: ws-marketing.gb@franke.com.
 - Product reference: G22043N.
- Cistern: TBC.
- Pan connector: TBC.
- Accessories: Pair of stainless steel cantilever brackets, ref G26523L/R.

438A MIRRORSTO WC'S

- Material: Class C safety glass to BS 6206 .
- Quality: Free from tarnishing, discoloration, scratches and other defects visible in the designed viewing conditions. Reflection undistorted.
- Size: refer to drawings.
- Backing: Aluminium foil.
- Edges: Square.
- Fixing: secret fix.
- Installation: Accurately with sides vertical.

445 WIDE PAPER TOWEL DISPENSER TO CHANGING PLACES

- Manufacturer:
Dolphin Dispensers, trading name of Bell-Chem Products Co.
 - Web: www.dolphindispensers.co.uk.
 - Tel: +44 (0)1424 20222
- Product reference: BC770 20W Dolphin Couch Roll Dispenser - White metal - wall mounted
- Dimensions (h x w x d): 158 x 540 x 167 mm

447 SANITARY TOWEL DISPENSERS TO CHANGING PLACES

- Manufacturer:
Dolphin Dispensers, trading name of Bell-Chem Products Co.
 - Web: www.dolphindispensers.co.uk.
 - Tel: +44 (0)1424 20222
- Product Reference: WP 155 Dolphin Prestige Chrome Nickel Steel Sanitary Towel Dispenser with fixings

449A SHELVES TO SANITARY AREAS GENERALLY

- Manufacturer: Contractor's choice.
 - Product reference: -.
- Material: Moisture resistant MDF
 - Size: 450x200x18mm.
- Finish: Painted.
Fixing: Screw fixed to wall and shelf using nylon coated metal 'L' shaped brackets .

458A SOAP DISPENSERS SOAP DISPENSERS GENERALLY

- Supplier: Dolphin Dispensers, trading name of Bell-Chem Products Co.
 - Web: www.dolphindispensers.co.uk.
 - Email: info@dolphindispensers.co.uk.
 - Product reference: BC410 Dolphin Prestige Surface Mounted Soap Dispenser
 - Accessories: BC400A.

462A TOILET PAPER HOLDERS GENERALLY

- Manufacturer: Dolphin Dispensers, trading name of Bell-Chem Products Co.
 - Web: www.dolphindispensers.co.uk.
 - Email: jon@dolphindispensers.co.uk.
 - Product reference: BC 935 Dolphin Satin Stainless Steel Jumbo Toilet Tissue Dispenser

472A HAND DRIERS

- Manufacturer: Dyson.
 - Web: www.dyson.co.uk/hand-dryers.
 - Email: specification@dysonairblade.co.uk.
Touch free operation, unheated air dries in just 10 seconds, literally scraping water from hands like a windscreen wiper. It's also hygienic, using a HEPA filter, cleaning the air (removing 99.9 % of bacteria) before blowing it onto hands. Long life, 1600W, energy efficient Dyson digital motor spins at 90,000rpm with no carbon brushes to wear down. And because it uses up to 80% less energy than warm air hand dryers it costs less to run. Robust and durable casing.
 - Product reference: AB07 - Polycarbonate ABS, 661 x 303 x 247 mm..
- Colour/ Finish: Grey.

488A HEIGHT ADJUSTABLE CHANGING BENCHESHYGIENE ROOM.

- 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
Electrically operated 1800mm changing bench, complete with safety rail.
The slightly curved form makes the bench extremely comfortable and safe.
Adjustable head support can be placed at both ends.
The bench and the end caps are covered with polyurethane foam.
The water collection tray is equipped with an integrated water outlet that prevents water from splashing on carers or the floor. The flexible hose can be connected to either an outlet in the floor or on the wall.
The integrated gas cylinder enables the bench to be folded easily against the wall when not in use to maximise floor space.
Height adjustable 700 mm.
The safety rail can be folded easily up or down using only one hand.
Max. load: 200 kg.
- Type: Height adjustable.
- Size: 1800 mm length (minimum).
- Material: Aluminium, polyurethane foam, plastics, powder-laquered steel .
- Finish/ Colour: manufacturers standard.

490 HOIST SYSTEMSHYGIENE ROOM.

- Manufacturer: 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*
 - Can pick up a client from the floor
 - Powerful motors for smooth operation (hoist 24v DC, traverse 24v DC) with overload restrictor
 - Heavy duty rechargeable batteries (2x12v DC) 7.0AH with LED charge indicator
 - Over-speed safety governor
 - Built in safety stops Pneumatic handset with up/down, traverse and emergency lowering and power cut off functions
 - Emergency manual raise and lowering..
- Material: Manufacturer's standard.
- Finish/ Colour: White.
- Electrical supply: Fused switched 13 A connection.

492A PRIVACY CURTAINSHYGIENE ROOM.

- 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*
- Removable vinyl curtains in white
- Panels supplied fitted
- 50mm diameter free rolling castors
- High quality powder coated finish
- Folds flat when not in use
- Very stable when in use and when folded
- Dimensions: 2800mm overall length 700mm (l) x 400mm (w - double caster wheel width when folded) x 1800mm(h) .
- " Material: as above.
- " Finish/ Colour: White.

580A SILICONE SEALANT

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.
- Web: www.dowcorning.com/construction.
- Email: bruce.nicol@dowcorning.com.
- Product reference: 785 Sanitary Silicone Sealant
- Colour: White.

EXECUTION**610 INSTALLATION GENERALLY**

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

620 NOGGINGS AND BEARERS

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

630 TILED BACKGROUNDS OTHER THAN SPLASHBACKS

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

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.

755 SEALANT BEDDING AND POINTING

- Bedding: Bed and point basins to underside of vanity units. .
- Pointing: Joints between appliances and walls. .

N14
General internal signage systems

N14 General internal signage systems

To be read with Preliminaries/ General conditions.

GENERAL

110A SIGNAGE SYSTEMGENERALLY

- 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 GENERALLY

- 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: drawings.
- 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.

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

110A FIRE SIGNAGE SYSTEMS FOR ESCAPE ROUTE AND FIRE FIGHTING EQUIPMENT

- 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 .

120A 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: Door or 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: Building Operation Manuals and Fire Risk 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: All.
 - 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.

330A PLASTICS SHEETFOR ESCAPE ROUTE SIGNS

- Material: Rigid plastics.
- 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: 2 mm .
- Finish: Manufacturer's standard .
- Perimeters: Radius corners .

330B PLASTICS SHEETDOOR MOUNTED MANDATORY FIRE PREVENTION SIGNS

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

330C PLASTICS SHEETMANDATORY FIRE ACTION SIGNS

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

330D PLASTICS SHEETFOR FIRE FIGHTING EQUIPMENT SIGNS

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

330E PLASTICS SHEETFOR SAFE CONDITION SIGNS

- Material: Rigid plastics.
- Manufacturer: Stocksigns
Tel: 01737 764764
Fax: 01737 763763
Email: sales@stocksigns.co.uk
Web: www.stocksigns.co.uk .
 - Product reference: Safe condition and first aid signs .
- Component thickness: 2 mm .
- 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 1

Section Revision History

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

Clauses amended in Revision 1

No.	Clause	
195A	INSULATION FITTED BETWEEN STUDS	Deleted
311A	DUPONT AIRGUARD CONTROL	Deleted
410	FLEXIBLE CAVITY BARRIERS	Deleted
420	SLEEVED MINERAL WOOL SMALL CAVITY BARRIERS	Deleted
450	FIRE/ACOUSTIC PROTECTION TO MECHANICAL AND ELECTRICAL SERVICES	Deleted

P10 Sundry insulation/ proofing work

SUNDRY INSULATION/ PROOFING WORK

To be read with Preliminaries/ General conditions.

TYPES OF INSULATION

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	19th 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: TBC.
 - Finished size: TBC.
- Finish as delivered: To be finished with Dulux Satinwood paint as per M60/151A.
- 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 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	
965	ADDITIONAL IRONMONGERY	Added
970	COAT HOOKS GENERALLY	Added

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 HINGES INTERNAL 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 .

ADDITIONAL IRONMONGERY**970 COAT HOOKS GENERALLY**

- Manufacturer: Contractor's choice.
 - Product reference: Submit proposal .
- Type: Hat and coat hook.
- Material/ finish: Satin anodized aluminium.

Q

Paving/Planting/Fencing/Site furniture

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.

200 SUBGRADE IMPROVEMENT LAYER (CAPPING)

- Material: To Highways Agency 'Specification for highway works', table 6/1, Class TBC.
- Standard: Placed and compacted to Highways Agency 'Specification for highway works', table 6/1, clauses 612 and 613.3, 613.8, 613.9, 613.10 and 613.13.

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.

215 COARSE GRADED AGGREGATE FOR PERMEABLE PAVING- UNBOUND.

- Material: Hard crushed rock.
 - Standard: To BS EN 13242 and paving manufacturers recommendations.
 - Aggregate size: 4/20.
 - Grading: Category Gc 85-15 + GTc 20/17.5.
 - Other properties: N/A.
- Testing:
 - Materials: Provide suppliers' certificates for grading and specified properties.
 - Sub-base: Not required.
- Laying: Lay in layers and lightly compact to ensure maximum density and aggregate interlock without crushing individual particles or unacceptably reducing the void ratio.
- Protection: Prevent damage by traffic and contamination by mud and soil.

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.

240 LAYING GRANULAR SUB-BASES FOR VEHICULAR AREAS

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

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.

255 LAYING GRANULAR SUB-BASES FOR HARD COURT AREAS

- Performance: In accordance with Cornwall Council External Works - Construction of Games Courts.
- Standard: BS 5835-1:1980
- General: Spread and levelled.
 - Compacted thickness: 200mm.
 - Layers: not to exceed 150mm.
- Compaction:
 - Timing: As soon as possible after laying, thereafter compact each layer.
 - 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 .

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

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

330 COLD WEATHER WORKING

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

340 PROTECTION

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

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**SYSTEM PERFORMANCE****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
Revision 1**

Section Revision History

No.	Purpose	
0	TENDER	13th Jul 2016
1	TENDER	13th Jul 2016

Clauses amended in Revision 1

No.	Clause	
310A	CLOSE BOARDED FENCING	Added

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.

340A STEEL VERTICAL BAR FENCING

- Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: Bow Top Panel
- Height: 1000 mm.
- Finish/ Colour:
 - Panel: Black RAL 9005.

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.

190C PROPRIETARY BOLLARDS

- Manufacturer: Jacksons Fencing.
 - Web: www.jacksons-security.co.uk.
 - Email: sales@jacksons-fencing.co.uk.
 - Product reference: Metal Bollards
- Type: J.
- Height: 1.1 m.
- Finish/ Colour: Galvanized and powder coated.

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 PELLETTED 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.