



Architects Specification: Inver College
• **Science classroom Refurbishment**



General specification of Workmanship & Materials

Inver College,
Carrickmacross, Co. Monaghan

Science Classroom Refurb
CMETB



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Document Control Sheet

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****Note to Contractors****

Where this specification and other contract documents/drawings refer to British Standards (BS or BS EN), the contractor should comply with the relevant and corresponding Irish Standard (IS or IS EN) or European Standard (EN) when available. If no IS or EN standards are available then the BS shall be applicable.

All works and installations must comply with the Current Irish Building Regulations, All Other Relevant Standards and Current Safety Health & Welfare at Work Act & Associated Construction Regulations (and any amendments thereof)

Furthermore, where the specification documents or drawings refers to a specific make, product or source, then an “or equivalent” product will be deemed acceptable



PRE SUBSTANTIAL COMPLETION REQUIREMENTS

SCHEDULE OF SAMPLES

SCHEDULE OF GUARANTEES

**INVER COLLEGE, CARRICKMACROSS,
CO. MONAGHAN**

SCIENCE CLASSROOM REFURBISHMENT



Pre-Substantial Completion Requirements/ Checklist For INVER COLLEGE

Contractor **MUST** ensure and provide the following:

1. Provide all necessary Ancillary Certificates to satisfy the requirements of the Building Control, (Amendment) Regulations
 - Sc ancillary certificate on compliance of design by Specialist roofing contractor etc
 - Si ancillary certificate on compliance on completion – inspection by Specialist
 - Cs ancillary certificate on compliance of design by Sub-contractors / Specialist contractor
 - Css ancillary certificate on compliance on completion by Sub-contractors/ Specialist Sub-contractor of Main Contractor
 2. Provide Letter of Compliance of the construction of the works with the Building Regulations as per the wording in this Specification.
 3. Provide the Safety File in compliance with the Specification and the requirements of the PSDP.
 4. Provide a full itemised schedule for all M/E installations/ plant/ equipment etc that requires testing, commissioning and demonstration to the client prior to Substantial Completion These must be listed in a single document and signed and dated by the contractor, services consultant and Employer's Representative as a record that all took place and were clearly understood.
 5. Provide Declaration of Performance Certificates requested prior to order of any product
 6. Provide original warranties for each piece of M&E equipment – as listed by Services Engineers and component of building envelope as per Architect's specification. State clearly the life of the warranty.
 7. 1- or 2-page summary to be provided at the front of the Safety/ O&M file listing all items of equipment that require regular maintenance or testing and the periods for same – also the date for the first inspection.
 8. Handover of keys and fobs: provide - 'Key handover certificates' for the following – doors, furniture, electrical cabinets etc, note boards/ cabinets, windows, access panels (in ceilings and walls/ floors etc), lifts and manholes etc – including key or fob/ swipe card. All keys to be tagged. Two copies of each key to be provided.
 9. Draw ropes been left in all empty/ spare ducts and photographed/ recorded.
- It is the Contractor's responsibility to snag the building.

It is the Contractor's responsibility to snag the building. A thorough snagging is to be carried out before presentation to the design team for checking prior to Substantial Completion. The Contractor is to ensure that those elements of the building that will be closed up or inaccessible at Substantial Completion are snagged, photographed and inspected earlier in the programme.



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Schedule of Samples for Building

1. Samples of stainless-steel ties, fixing brackets and angles
1. Timber doors - internal - 1 of each type of Full-size door sample
2. Internal joinery - Architraves and skirting 2 X 1m Length
3. Junctions with adjacent materials
4. Built in furniture - materials Loose 500x500
5. Linoleum (flooring) by Forbo including welded joint - 3 no. colours 1mx1m
6. Floor: 2 types - 3 colours 500 x 500
7. Walls: 2 types - 3 colours 500 x 500
8. Ceiling finishes and conc slab finish
9. Plasterboard with edge trim and shadow gaps 1m x 1m
10. Painted plasterwork - 4 colours 1m x1m

Minimum 10 Working Days to be allowed in programme for issue of

a) Comments and

b) Approval of Final/ Complete Samples. i.e. 5 Working Days.

N.B. Any costs incurred for work carried out or materials procured without the scheduled approvals is at the Contractor's expense.

All samples to be labelled with Manufacturer name, product name, Ref. and colour.

Copy of this schedule to be submitted along with the Contractor's Master Programme prior to start on site as per Preambles A32/ 230.

Proposed dates for presentation of samples to be completed.

Samples are to be retained on site for the duration of the Works and are to be available for reference to all relevant construction workers, management, ER, Client and design team. Protection to be provided to prevent water or mechanical damage.

Samples to be kept clean. Ref Preambles A33/ 230

All samples to be mounted on site independent of the Works unless specifically permitted.

Sample schedule to be updated and submitted fortnightly with Contractor's Progress Report Ref Preambles A32/ 261.

Alternative proposals/ samples will not be considered until all information specified in Preambles A31/ 200 is submitted.



Schedule of Samples for M&E Services
To be read in conjunction with specification and schedules
by CB Consulting Engineers

Mechanical

1. Commissioning Sets 1 No.
2. Motorised Control Valves 1 No.
3. Non Return Valves 1 No.
4. Pressure reducing Valves 1 No.
5. Lock shield Valves 1 No.
6. Radiator Valves 1 No.
7. Mini Ball Valves 1 No.
8. Drain valves 1 No.
9. Air Vents 1 No.
10. Gas Valves 1 No.
11. Radiators 1 No.
12. Extract Fans Data Sheets
13. Pipework Insulation and Cladding 1m Length
14. Ductwork Insulation and Cladding 1m Length
15. Water Treatment / Inhibitor Data Sheets
16. Fire Collar 1 No.
17. Fire Dampers 1 No.
18. Extract Grilles 1 No.

Electrical

1. Electrical Switchgear Data Sheet
2. Electrical Accessories 1 No.
3. Lighting Controls 1 No.
4. Structured Cabling Equipment Data Sheets
5. Public Address Data Sheets
6. Speakers 1 No.
7. Speakers / Cameras 1 No.
8. Intruder Alarm System Equipment 1 No.
9. Door Entry System Data Sheets
10. CCTV System Data Sheets
11. Intercom System 1 No.
12. Fire Alarm System Data Sheets
13. Desk Data Modules 1 No.
14. PA System Data Sheets



Fire Safety Compliance

Contractor to inspect and verify the works are in compliance with the current Building Regs prior to Substantial Completion.

Site inspection frequency:

Monthly visits during the works and at critical times including a visit prior to substantial completion

Certificate of Compliance:

Required prior to Substantial Completion in compliance with BCaR

Certification Required:

Certificate of Compliance of the works as constructed with the Building Regulations Part B (Fire Safety) of the Second Schedule to the Building

Completion /commissioning certificates:

- Fire doors, frames, ironmongery and installation as per list attached
 - Fire sealing at fire rated constructions
 - Mechanical and electrical fire protection systems
 - Instructions to building managers and users
 - Emergency lighting installation
 - Fire detection and alarm system
 - Fire stopping of services
 - **Evidence of compliance** by reference to certificates from manufacturer, supplier/ installer
 - Statement of inspection on site during construction and completion /commissioning certificates including a statement of witness of satisfactory operation of all works including mechanical and electrical fire protection related installations.
- The service penetrations through fire barriers must be independently certified prior to substantial completion and certificate provided together with full insurance details etc of the certifier

Fire Doors & Fire Door Sets – Compliance Requirements

Test Certs to BS 476 Parts 8 & 2 2

Compliance Requirements:

1. Each fire door set test certificate to include project name, building contractors name, date of certificate, period of validity and be accompanied by a list of the door numbers (referenced to CPA door schedule) to which it applies.
2. Any differences between the doors installed and the doors covered by the certificate to be noted.
3. Statement on effect of specification difference in 2 above re validity of test for the door(s) in question.
4. Statement on compliance of installation of complete door sets (leafs, frames) and entire installation.
5. Ironmongery: If different from test - list differences and provide statement on compliance.



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GENERAL SPECIFICATION OF WORKMANSHIP & MATERIALS



C13

Building surveys

Surveys - Not Used

Survey techniques

34 **Building reconnaissance**

1. Objectives: Assess current condition of Science Room and areas included within the project
2. Extent: Assess current condition and record
 - 2.1. Features to be included: Any defects, issues or concerns prior to commencement of work.
 - 2.2. Specific requirements as to methods: Visual assessment with photographic evidence where required.

130 **BACKGROUND INFORMATION SOURCES**

- Subject: Existing Secondary School
- Contact: Ms. Sinéad McColgan, Principal of Inver College to arrange access

160 **UNFORESEEN HAZARDS**

- Unrecorded physical features and hazardous materials: Give notice when found.
Do not disturb.

190 **PHOTOGRAPHS**

Digital photographs: Contractor is required to carry out a comprehensive digital survey of the interior and exterior of:

- a. The Science classroom before work commences
- b. joining buildings and structures before work commences
- c. all the parts School roof affected by the works before work commences

150 **PUBLIC SAFETY**

– refer to **PSDP Preliminary Safety & Health Plan**

- Protection of the public particularly school children and erect temporary fences, hoardings, temporary footpaths, warning lights, etc. before starting work.
- Specific hazards which may be encountered: note the danger associated with working from a height

Safety of members of the public must be maintained at all times

180 **COMPETENCE**

- Skill and experience: Appropriate for the type of work.
- Evidence: Submit prior to commencement.



GENERAL REQUIREMENTS

110 DESK STUDY/ SURVEY

- Scope: Before starting work, examine all available information; carry out a survey of the existing buildings, site and surrounding area.

- Report and method statements: Submit report describing how you will carry out the work at height and protect the operatives carry out the work

Identification and location of services above and below ground, including those required for the Contractor's own use.

Arrangements for disconnection and removal of services

- Type and location of any features of historical, archaeological importance.

- Sequence and method of demolition including details of any specific pre-weakening.

Arrangements for protection of personnel and the public incl exclusion of unauthorized persons

Protection of members of the public using the footpath

- Arrangements for control of site transport and traffic. - this is a very tight, restricted site

- No demolition works are to take place outside of normal working hours.

- Proposed programme of work. One hard copy and one digital copy

120 EXTENTS OF DEMOLITION

– refer to demolition drawing and photographic survey information for the full extents of demolition works

General: Carefully demolish all elements of building or structure as shown on demolition drawing.

SERVICES AFFECTED BY DECONSTRUCTION / DEMOLITION

210 SERVICES REGULATIONS

- Work carried out to or which affects new or existing services: Carry out in accordance with the Byelaws or Regulations of the relevant Statutory Authority.

220 LOCATION OF SERVICES

- Services affected by the Works: refer to statutory agency's drgs for locations

It is the Contractor responsibility to locate and mark all positions.

- Mains services: Arrange with the appropriate authorities for location and marking of positions.

230 DISCONNECTION - ARRANGED BY CONTRACTOR

- General: Arrange with the appropriate authorities for disconnection of services and removal of fittings & equipment prior to starting demolitions

- Timing: Must not start demolition until all necessary disconnections are completed.

Contractor must include sufficient time within their programme for disconnection of services etc

240 DISCONNECTIONS OF DRAINS

- General: Locate disconnect and seal disused drain connections.

- Sealing: Within the site and permanent.

250 DRAINS IN USE



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- General: Protect drains, manholes, inspection chambers, gullies, vent pipes and fittings still in use particularly around the school and ensure that they are kept free of debris.
- Damage: Make good any damage arising from demolition work.
- Leave clean and in working order at completion

260 BYPASS CONNECTIONS

- General: Provide as necessary to maintain continuity of any services to occupied areas of the same and adjoining properties.
- Notice: Give a minimum 72 hours notice to occupiers if shutdown is necessary during changeover.

270 SERVICES WHICH ARE TO REMAIN

- Damage: Give notice and notify service authority or owner of any damage arising from the execution of the works.
- Repairs: To the satisfaction of the ER and service authority or owner.

Ω End of Section



C20

Demolition

To be read with preliminaries/ general conditions.

310 WORKMANSHIP

- Standard: any demolishing to be in accordance with BS 6187.
- Operatives: Appropriately skilled and experienced for the type of work and hold or be 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 demolition to be used.

320 GAS OR VAPOUR RISKS

Precautions: Adequate to prevent fire or explosion caused by gas or vapour.

330 DUST CONTROL

- Method: Reduce by periodically spraying demolition works with water.

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 progresses.
- Damage: Minimise. Promptly repair.
- Leave no unnecessary or unstable projections.
- Make good to ensure safety, stability, weather protection and security.
- Support to foundations: Do not disturb.
- Defects: Report any exposed or becoming apparent.

360 STRUCTURES TO BE RETAINED: remaining walls as described on drawings

- Parts which are to be kept in place: Protect.
- Extent of work: Cut away and strip out with care to reduce the amount of making good to a minimum.

370 PARTLY DEMOLISHED STRUCTURES

- General: Leave in a stable condition, with adequate temporary support at each stage to prevent risk of uncontrolled collapse. Retained free standing wall must be protected. Keep safe outside working hours.
- Temporary works: Prevent debris from overloading.
- Unauthorised persons: Prevent access.

380 DANGEROUS OPENINGS

- General: Illuminate and protect. Keep safe outside working hours.



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391 ASBESTOS CONTAINING MATERIALS– UNKNOWN OCCURRENCES

- Discovery: Give notice immediately of any suspected asbestos based materials discovered during demolition work. Avoid disturbing such materials.
- Methods for safe removal. Submit details.

410 UNFORESEEN HAZARDS

- Methods for safe removal, filling, etc: Submit details.

440 SITE CONDITION AT COMPLETION

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

MATERIALS ARISING

510 CONTRACTOR'S PROPERTY -NOTE DETB PROPERTY

- Components and materials arising from the demolition work.
 - Old built-in Science room furniture is the property of DETB (to be confirmed with school principal) and is to be set aside and delivered to their store /compound as directed
- Property of the Contractor except where otherwise provided – such as the benching. Remove other material from site as work proceeds where not to be reused in the Works at contractor's expense

120 REMOVAL OF LOOSE or DEFECTIVE WALL AND CEILING PLASTER

Carefully remove existing saturated or delaminated plaster exposing masonry backgrounds



C90

Alterations

To be read with preliminaries/ general conditions. - Not Used

General

120 Forming New Door Opening

Carefully prop existing wall and insert new lintel with suitable bearing on each side
Remove blockwork and form new door jambs
Use EML to carefully join new plasterwork
Door and frame to come as a single FR set to comply with manufactures certificate and regs

125 Employer's property

1. Components and materials arising from alterations that are to remain the property of the employer:
 - 1.1. Protection:
2. Special requirements:

140 Removal

1. Scope: All existing fitted furniture and fittings within the existing science classroom to be removed
2. Method: Water/gas/electrical supply to be isolated prior to removals. To be unscrewed from wall/ floor with all fixings removed and exported from room carefully without damage to floors/walls in access rooms.
3. Special requirements: Ensure all services are disconnected prior to commencing any removals

150 Repair/ replace/ refinish

1. Items: Existing wall and ceiling finishes within Science Classroom
2. Scope: All existing surfaces that are affected/damaged by alterations & removals
3. Method: Any cracks/holes/damage to wall and ceiling surfaces to be filled, smoothed and repainted
 - 3.1. Preparation: Fill any holes/cracks, sand until smooth and blended with adjacent surfaces, prepare for painting

Ω End of Section



K10

Gypsum board dry linings/ partitions/ ceilings

To be read with preliminaries/ general conditions.

50 Suspended ceiling system on metal framing

1. Description: New 30 minute fire rated ceiling to Prep Room and Chemical Store areas, see details on dwg A-02
 2. Standard: to achieve certified 30 minute fire rating
 3. Evidence of compliance: **use certified system only – certification of fire resistance is required**
 4. Ceiling system manufacturer: Contractors choice
 5. Structural soffit: U/S of Existing Roof
 6. Ceiling
 - 6.1. Soffit height above finished floor level: 2325mm
 7. Suspension system
 - 7.1. Hangers: to be compatible with suspended ceiling system and be included in the 30 minute fire rated certified build-up.
 - 7.2. Hanger centres: as manufacturer recommends
 - 7.3. Primary grid centres: as manufacturer recommends
 - 7.4. Secondary grid centres: as manufacturer recommends
 8. Fire performance
 - 8.1. Reaction to fire: Class B - s3, d2 - to I.S. EN 13501-1
 - 8.2. Fire resistance of complete ceiling lining assembly: 30 minutes fire resistance
 - 8.3. Cavity fire barriers: to maintain the 30 minute fire separation
 9. Linings: 2 x layers of 12.5mm Fire rated board or equal to give certified 30 minute fire rating.
 - 9.1. Screw centres: as manufacturer recommends
 10. Insulation: Stone mineral wool slabs (100kg/m2)
 - 10.1. Recycled content:
 - 10.2. Thickness: 25mm or certified build-up thickness
 11. Access:
 12. Accessories:
 13. Integrated services fittings:
 14. Electrical continuity and earth bonding:
 15. Finishing:
 - 15.1. Primer/ Sealer: taped and sealed as manufacturer recommends
 16. Other requirements: Skim plaster finish to boards, ceiling to be painted
-



Installation

60 Ceilings

1. Sequence: As recommended by manufacturer
2. Orientation of boards: As recommended by manufacturer
3. Two layer boarding: As recommended by manufacturer

61 Metal framing for partitions/ wall linings

1. Setting out: Refer to manufacturers installation guide
 - 1.1. Frame/ Stud positions: As recommended by manufacturer for this wall system
 - 1.2. Additional studs: As recommended by manufacturer for this wall system
 - 1.3. Pattressing: As recommended by manufacturer for this wall system
2. Fixing centres at perimeters (maximum): As recommended by manufacturer for this wall system
3. Openings:
 - 3.1. Doorsets: As per plan drawing P-01
 - 3.2. Services penetrations: Refer to M&E layouts

67 Skim coat plaster finish

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

69 Installing beads/ stops

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

725 Repairs to existing gypsum board

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



70 Additional supports

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

75 New wet laid bases

1. Dpcs:
 - 1.1. Material:

86 Cavity fire barriers within partitions/ Wall linings

1. Metal framed systems
 - 1.1. Material: : Wire-reinforced mineral wool 50 mm (minimum) thick
 - 1.1. Installation: Form accurately and fix securely with no gaps to provide a complete barrier to smoke and flame.
2. Adhesive fixed wall lining systems
 - 2.1. Material: Adhesive compound.
 - 2.2 Installation: Form in a continuous line with no gaps to provide a complete barrier to smoke and flame.

87 Sealing gaps and air paths

1. Application of sealant to dry lining systems: : Continuous beads leaving no gaps or air paths.
2. Acoustic sealant: : Apply to perimeter abutments with walls, floors, ceilings and around openings.
3. Location of sealant: To perimeter abutments and around openings.
 - 3.1. Pressurized shafts and ducts: At board-to-board and board-to-metal frame junctions.
4. Application: To clean, dry and dust free surfaces as a continuous bead with no gaps.
Gaps greater than 6 mm between floor and underside of gypsum board: After sealing, fill with jointing compound

88 Fire-stopping at perimeters of dry lining systems

1. Material: Tightly packed mineral wool or intumescent mastic/ sealant.
2. Application: Seal any gaps at junctions of linings and cavity barriers with perimeter abutments, service penetrations, etc. to prevent penetration of smoke and flame

90 Seamless jointing

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



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3. Square edged gypsum fibre boards: 5 mm gap.

91 Vertical joints

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

92 Horizontal joints

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

93 Fixing gypsum board to metal framing/ furrings

1. Partitions/ Wall linings: Fix securely and firmly at the following centres (maximum):
 - 1.1. Single layer boarding: To all framing at 300 mm centres. Reduce to 200 mm centres at external angles.
 - 1.2. Multi-layer boarding: Face layer at 300 mm centres, and previous layers around perimeters at 300 mm centres.
2. Ceilings: 230 mm. Reduce to 150 mm at board ends and at lining perimeters.
3. Position of screws from edges of boards (minimum): 10 mm.
 - 3.1. Screw heads: Set in a depression. Do not break paper or gypsum core.

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.
- ensure that fire rating of ceiling is maintained

401 Ceiling Mounted Luminaires

- Support: By ceiling system.
 - 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.



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- Fire protecting/ resisting ceiling systems: Luminaires must not diminish protection integrity of ceiling
- Access: Provide access for maintenance of luminaires.
 - ensure that fire rating of ceiling is maintained

Finishing

97 Level of dry lining across joints

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

98 Repairs to existing gypsum board

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

Ω End of Section



L10

Windows/ rooflights/ screens/ louvres- To be read with Preliminaries/ General conditions. The following specification shall be read in conjunction with the Architect's Window & Door Schedules.

General

110 Evidence of performance

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

120 Pre-construction survey

1. Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. Designated items: all items specified in this Section, including aluminium cills .
3. Primary support structure: Carry out survey sufficient to verify that required accuracy and security of erection can be achieved.
4. Timing: Before fabrication.

140 Control samples

5. Procedure
 - 5.1. Finalize component details.
 - 5.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
 - 5.3. Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.
6. Designated items: External windows and doors

150 Daylight performance

2. Daylight calculations: In accordance with CIBSE 'Lighting guide LG 10' and BS EN 17037
3. BREEAM requirements
 - 3.1. Submit: Daylight performance schedule
 - 3.2. Calculations showing: Average daylight factor expressed as a percentage for each room/ area

Products

205 Window materials specification

3. Minimum BRE 'Green Guide to Specification Online' rating: Submit proposals

330 Aluminium window units Type A

Triple-Glazed Aluminium Window Specification

Replacement clerestory window: For sizes of window, please refer to dwg RE-01 for details.



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Provide and install thermally broken aluminium framed windows, factory fabricated and finished, complete with all glazing, seals, ironmongery, fixings, and accessories required for a complete installation.

Frame

- Material: Thermally broken extruded aluminium.
- Finish: Marine Grade Polyester powder coated to Architect's selected RAL colour and finish.
- Frame performance: Designed to minimise thermal bridging and achieve the specified whole-window thermal performance.
- Air, water and wind performance: Tested and certified in accordance with the relevant BS EN standards.

Glazing

- Configuration: Triple-glazed insulating glass unit.
- Outer pane: Clear Low-E II coated glass.
- Centre pane: Clear float glass.
- Inner pane: Clear float glass.
- Cavity: Argon-filled cavities with warm-edge spacer bars.
- Safety glazing: Toughened and/or laminated where required to comply with Building Regulations EN12600 and BS 6262.

Performance Requirements

- Maximum whole-window thermal transmittance (U_w): **1.4 W/m²K**. (Ideally between $U_w \leq 1.2$ –**1.4 W/m²K**)
- Airtightness: Air permeability Class 4 (EN12207), Watertightness Class E1200 or better (EN12210), Wind RESistance
- Visible light transmittance (LT): **$\geq 70\%$** .
- Solar factor (g-value): **0.50 (50%)**.
- Low-emissivity coating: High-performance Low-E II clear coating.
- Acoustic performance: As required by project documentation (if specified).

Operation

- Opening lights to be fitted with concealed **electronic actuators** suitable for automated operation. **24 VDC chain actuators as per M&E spec.**
- Actuators to be compatible with the building management system (BMS) and/or window control system where specified.
- Provide integrated limit switches, position feedback, and manual override where required.
- Actuators to be sized to suit window dimensions, weight, and wind loading, and capable of reliable operation throughout the design life of the installation. To be cycle tested to manufacturers standard.
- Coordinate actuator type, voltage, control interfaces, and wiring requirements with the electrical services design.



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- Manual release mechanism to be provided.

Hardware

- Stainless steel or corrosion-resistant hardware.
- Multi-point locking mechanism where applicable.
- Restrictors and safety devices as required by regulations and project requirements.
- Gaskets and weather seals to ensure airtightness and weather resistance.

Installation

- Install in accordance with the manufacturer's recommendations and project drawings.
- Ensure frames are plumb, level, and securely fixed.
- Seal perimeter joints with compatible air and weather-tight sealants.
- Protect completed installation from damage until practical completion.

Submittals

- Product data sheets.
- Manufacturer's performance certificates demonstrating compliance with specified thermal, optical, and structural performance.
- Test reports for air permeability, watertightness, wind resistance, and thermal performance.
- Shop drawings showing frame profiles, glazing configuration, actuator arrangement, and fixing details.
- Operation and maintenance manuals, including actuator commissioning information and warranty documentation.

Warranty

- Minimum 10-year manufacturer's warranty on window system. Minimum 20-25 years warranty for coating.
- Minimum 5-year warranty on electronic actuators and associated control equipment.

Execution

710 Protection of components

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

730 Priming/ sealing

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

740 Corrosion protection

1. Surfaces to be protected:



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2. Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic-impregnated tape.

- 2.1. Timing of application: Before fixing components.

750 Building in

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

760 Replacement window installation

1. Standard: In accordance with BS 8213-4.

765 Window installation generally

1. Installation: Into prepared openings.
2. Gap between frame edge and surrounding construction
 - 2.1. Minimum: 5mm
 - 2.2. Maximum: 10mm
3. Distortion: Install windows without twist or diagonal racking.

766 Location of openable windows in naturally ventilated buildings

7. Location: Over 10 m from sources of external pollution.

770 Damp-proof courses in prepared openings

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

782 Fixing of aluminium frames

1. Standard: As section Z20.
2. Fasteners:
 - 2.1. Spacing: When not pre-drilled or specified otherwise, position fasteners not more than 250 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.**810** Sealant joints
1. Sealant
 - 1.1. Manufacturer: Submit proposals
 - 1.2. Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 Ironmongery

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

Ω End of Section



M50

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

To be read with preliminaries/ general conditions. Where product manufacturers and products are named, please use 'or equal'

150 SHEETING: Heterogeneous PVC to BS EN ISO 10582 and BS EN 13845.

1. Flooring roll
 - 1.1. Standard: To BS EN ISO 10582 and BS EN 13845 & 14041.
 - 1.2. Use class: Class 34 Commercial very heavy, Class 43 light industrial.
 - 1.3. Slip potential
 - 1.3.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum): DIN 51130, R10; BS EN 13893, DS ≥ 0.30 .; PTV Wet slider 96: ≥ 36 .
 - 1.3.2. Surface roughness (Rz) (minimum): ≥ 20 .
 - 1.4. Recycled content: 20%.
 - 1.5. Width: 2 m.
 - 1.6. Thickness: Total: 2.0 mm; Wear layer: 0.7 mm.
 - 1.7. Colour and pattern: to architect's approval
 - 1.8. Dimension stability (to EN-ISO 23999): $< 0.1\%$.
 - 1.9. Residual indentation (to EN-ISO 24343-1): ≤ 0.05 mm.
 - 1.10. Electrical resistance (to EN 1081 R1): $> 1 \times 10^9 \Omega$.
 - 1.11. Reaction to fire (to BS EN 13501): Bfl-s1.
 - 1.12. Body voltage (to BS EN 1815): < 2 kV.
 - 1.13. Thermal conductivity (to BS EN 12524): $0.25 \text{ W/m}\cdot\text{K}$.
 - 1.14. Adhesive: Eurocol 140 Euromix PU Pro.
 - 1.15. Fabricated underlay: Not required.
 - 1.16. Castor chair continuous use (to EN 425): No effect.
 - 1.17. Use in wet areas (to EN 13553): Yes.
 - 1.18. Total weight (to EN ISO 23997): 2.75 kg/m^2 .
 - 1.19. Light fastness (to BS EN ISO 105 B02): ≥ 6 .
 - 1.20. (to EN 13845 Annex C): Esf.
 - 1.21. EN 13845 Annex D 50.000 revolutions $< 10\%$ loss: Pass.
 - 1.22. Resistance to chemicals (to EN ISO 26987): Very good.
 - 1.23. Edging: as required
 - 1.24. Skirtings: Not required.
 - 1.25. Stair nosings: Not required.

27 Samples

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



30 **Layout – roll materials**

Setting out of seams: Agree setting out for sheeting types M50/ all types

251 Layout – seams in roll materials

1. Setting out: Minimise occurrences of seams and cross seams.
2. Cross seams: Not permitted in following locations: Not applicable.

252 Layout – patterns

1. Setting out: Agree setting out for covering types M50/ all types .

34 Conditioning

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

42 Existing bases

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

45 Existing floor covering

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

67 Seams

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

70 Edgings and cover strips

1. Manufacturer:
 - 1.1. Product reference:
2. Material/ finish:
3. Fixing: Secure with edge of covering gripped. Use matching fasteners where exposed to view

80 Skirtings

1. Types: Timber skirtings where specified throughout
2. Manufacturer: 25 x 150mm timber skirting
 - 2.1. Product reference: Profile to match existing skirtings
3. Fixing: Secure with top edge straight and parallel with floor.
Corners: Mitre joints.



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82 **Finishing**

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

85 **Leftover material**

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

Ω End of Section



M60

Painting/ clear finishing

To be read with preliminaries/ general conditions.

10 Water-based finishing coats Type A

1. Description: All new & existing plasterboard ceilings
2. Composition: Copolymer binder.
3. Sheen: Matt.
4. Colour: White.
5. Capacity: 10 L.
6. Form: Liquid.
7. Surfaces: Interior Plaster/Plasterboard
 - 7.1. Preparation: Thoroughly clean down the surfaces to remove all dirt, grease and surface contaminates. Allow to dry. Carefully remove plaster splashes etc. Brush the surface to remove any loose deposits.

Please Note:
The substrate manufacturers recommendations must be followed including those for sealing the surface prior to applying the finishing system.
Please also refer to BS 8212:1995 for dry lining.
Make good cracks, holes and other imperfections with Polycell Trade Easy Sand Interior Filler. Allow such making good to dry out thoroughly. Rub down smooth to match surrounding area and *dust off.

Note:
*When rubbing down dry and/or dusting off wear a suitable face mask to avoid the inhalation of dust.

8. Initial coats:

Spot prime any bare metal, metal fixings nail heads etc with: 1 coat of Metal Primer.
Prime overall with: 1 coat Primer Sealer. (Plasterboard) or 1 coat of Matt (Plaster) up to 1 part clean water to 5 parts paint.

- 8.1. Number of coats: **2 coats of Matt paint** of selected shade.

10 Water-based finishing coats Type B

1. Description: New and existing plaster/board wall areas
2. Composition: PVA copolymer.
3. Sheen: Vinyl silk.
4. Colour: to be confirmed by architect
5. Execution: STIR THOROUGHLY BEFORE USE. Seal new or bare surfaces with a thinned first coat of paint (up to 1 part clean water to 5 parts paint). The normal finishing process is 2 full coats of chosen paint, however for significant colour change additional coats may be required.
6. Form: Liquid.
7. Capacity: 5 L.
8. Surfaces:



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Walls & Ceilings - Interior
Plaster/Plasterboard/Fairfaced Block

- 8.1. Preparation: Thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Allow to dry. Carefully remove plaster splashes etc. Brush the surface to remove any loose deposits.

Please Note:

The substrate manufacturers recommendations must be followed including those for sealing the surface prior to applying the finishing system.

Please also refer to BS 8212:1995 for dry lining.

Make good cracks, holes and other imperfections with Polycell Trade Easy Sand Interior Filler. Allow such making good to dry out thoroughly. Rub down smooth to match surrounding area and *dust off.

Note

*When rubbing down dry and/or dusting off wear a suitable face mask to avoid the inhalation of dust.

9. Initial coats:

Spot prime any bare metal, metal fixings nail heads etc with: **1 coat of Metal Primer.**

Prime overall with: **1 coat of Primer Sealer.** (Plasterboard) or **1 coat of Matt paint** (Plaster) up to 1 part clean water to 5 parts paint.

10. Finishing coats: **2 coats of Matt paint** of selected shade.

16 Water-based finishing coats Type A

1. Description: New non-resinous woodwork
2. Composition: Water-based.
3. Colour: to be confirmed by architect
4. Execution: Applying wood stain.
5. Form: Liquid.
6. Capacity: as required
7. Build: Manufacturer's standard.
8. Opacity: Opaque.
9. Surfaces: New non-resinous woodwork

- 9.1. Preparation: Woods with a knot content above that specified in BS EN 942 should not be used. New wood should ideally be preservative impregnated. In some situations this may be mandatory.

Thoroughly clean down the surfaces to remove all dirt, grease and surface contaminants. Carefully remove any plaster or mortar deposits. Remove oils from surface by wiping with White Spirit. Abrade overall to remove any raised grain and round all sharp edges to a 3mm radius and *dust off. Apply two thin coats of an appropriate knotting solution to all knots and resinous areas and allow to harden. Ensure all surfaces are fully dry before proceeding.

Note

*When rubbing down dry and/or dusting off wear a suitable face mask to avoid the inhalation of dust.

10. Initial coats: Spot prime any bare metal, metal fixings nail heads etc with: **1 coat of Metal Primer.**

Prime overall with: **1 coat(s)** of chosen paint of appropriate shade.



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11. Making good:: Make good all nail-holes, open joints and open grain etc. with a Polycell Trade filler appropriate to the surface and according to the manufacturer's instructions. Allow making good to dry before being rubbed down smooth and *dusted off.

Fillers

Use only good quality/compatible materials and follow the manufacturers' recommendations for use, even if at variance with this system.

Note

*When rubbing down dry and/or dusting off wear a suitable face mask to avoid the inhalation of dust.

NOTE

Linseed oil putty is not suitable for use under woodstains, varnishes or water based systems.

12. Finishing coats: Quick Dry opaque as above

12.1. Number of coats: 2

1.1. Number of coats: 2

22 Handling and storage

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

28 Protection

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

30 Preparation generally

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



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- 11.2. If applied after priming: Patch prime.
- 12. Doors, opening windows and other moving parts
 - 12.1. Ease, if necessary, before coating.
 - 12.2. Prime resulting bare areas.

32 Previously coated surfaces generally

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

35 Fixtures and fittings

1. Risk assessment and method statement for hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
2. Removal: Before commencing work necessary items.
3. Replacement: Refurbish as necessary, refit when coating is dry.

36 Ironmongery

1. Removal: Before commencing work remove ironmongery from surfaces to be coated.
2. Hinges: Do not remove
3. Replacement: Refurbish as necessary; refit when coating is dry.

37 Wood preparation

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



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6. Defective primer: Take back to bare wood and reprime.

39 Steel preparation

1. Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.
2. Defective paintwork: Remove to leave a firm edge and clean bright metal.
3. Sound paintwork: Provide key for subsequent coats.
4. Corrosion and loose scale: Take back to bare metal.
5. Residual rust: Treat with a proprietary removal solution.
6. Bare metal: Apply primer as soon as possible.
7. Remaining areas: Degrease.

41 Masonry and rendering preparation

1. Loose and flaking material: Remove.

43 Plaster preparation

1. Nibs, trowel marks and plaster splashes: Scrape off.
2. Overtrowelled 'polished' areas: Provide suitable key.
3. Depressions around fixings: Fill with stopper/ filler.

45 Previously painted window frames

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

50 External pointing to existing frames

1. Defective sealant pointing: Remove.
2. Joint depth: Approximately half joint width; adjust with backing strip if necessary.
3. Sealant
 - 3.1. Manufacturer:
 - 3.1.1. Product reference:
 - 3.2. Preparation and application: As section Z22.

52 Sealing of internal movement joints

1. General: To junctions of walls and ceilings with architraves, skirtings and other trims.
2. Sealant: Water-borne acrylic.
 - 2.1. Manufacturer:
 - 2.1.1. Product reference:
 - 2.2. Preparation and application: As section Z22.



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61 Coating generally

1. Application: In accordance with BS 6150,
2. Conditions: Maintain suitable temperature, humidity and air quality.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing: Not permitted unless recommended by manufacturer.
5. Overpainting: Do not paint over intumescent strips or silicone mastics.
6. Priming coats: Apply as soon as possible on same day as preparation is completed.
7. Finish
 - 7.1. Even, smooth and of uniform colour.
 - 7.2. Free from brush marks, sags, runs and other defects.
 - 7.3. Cut in neatly.
8. Doors, opening windows and other moving parts: Ease before coating and between coats.

65 Concealed joinery surfaces

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

66 Concealed metal surfaces

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

68 Staining wood

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

69 Varnishing wood

1. First coat:
 - 1.1. Brush well in and lay off avoiding aeration.
2. Subsequent coats: Provide light key along the grain between coats.

Ω End of Section



N10

General fixtures/ furnishings/ equipment

Clauses

Read in conjunction with Preliminaries and general conditions

Products

130 Laboratory furniture

1. Description: Two Way Bench Mounted Drop Lever Gas Tap
2. Item: Gas taps
3. Standard : Anti-corrosive plastic coating to EN13792
4. Manufacturer: Contractor's choice
5. Dimensions: Manufacturer's standard.
6. Worktops
 - 6.1. Material: To be fixed to side panels of units F.9, F.10 and
 - 6.2. Finish/ colour:
 - 6.3. Exposed edges:
7. Pedestal units
 - 7.1. Material:
 - 7.2. Finish/ colour:
 - 7.3. Exposed edges:
8. Supports:
9. Accessories/ other requirements:
10. Verification:
 - 10.1. Submittals:
 - 10.2. Timing:

195 Noticeboards

1. Description Magnetic Whiteboard
2. Type: Wall-mounted
3. Use: Magnets
4. Manufacturer: Contractor's choice
5. Size: 1.2 x 2.4m (4 total)
1.8 x 1.2m (2 total)
6. Fire resistance: Surface spread of flame: Class B – s3, d2
7. Board surface
 - 7.1. Material: Magnetic sheet metal
 - 7.2. Covering finish/ colour: Gloss metal paint
8. Frame
 - 8.1. Material: Beech
 - 8.2. Finish/ Colour: Factory finish, colour to be agreed



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195 **Pinboards Pin boards (cork)**

1. Description: Pinboards where shown on room elevations
2. Type: Wall-mounted
3. Use: Pins
4. Material: Pinboard linoleum.
5. Dimensions
 - 5.1. Thickness: 6.0 mm $\pm$ 0.25 mm.
 - 5.2. Size: 1.22 m.
6. Decorative facing: Surfacing linoleum.
7. Total weight: To EN-ISO 23997, 4.7 kg/m² $\pm$ 10%.
8. Flexibility (to EN-ISO 24344): To EN-ISO 24344, Ø 50 mm, according to method A.
9. Roll length: To EN-ISO 24341, $\leq$ 28 m.
10. Sound absorption coefficient: To EN-ISO 354, 0.1 α_w .
11. Thermal Conductivity: To EN 12524, 0.10 W/m·K.
12. Self-healing properties: LH000420, yes.
13. Force on pins: LH000421, 25 N, 10 N and 15 N.
14. Chemical resistance: To EN-ISO 26987.
15. Backing: Natural jute.
16. Dimensional stability: Dimensionally stable in all directions.
17. HasAntiStaticSurface: true
18. Sheen: Matt.
19. Recycled content (minimum): 43%.
20. Colour: to be agreed
21. Size: 750 x 1850mm (6 per storage unit)
22. Fire resistance: Surface spread of flame: Class B – s3, d2
23. Board surface
 - 23.1. Material: Linoleum
 - 23.2. Covering finish/ colour: Gloss metal paint
24. Frame
 - 24.1. Material: PVC
 - 24.2. Finish/ Colour: Factory finish, colour to be agreed
25. Accessories/ Other requirements: To be set in 25mm hardwood frame painted with clear lacquer

200 **Worktops**

1. Description: To areas with worktop surfaces as detailed in drawings A-01, A-02
2. Manufacturer: Contractor's choice
3. Material: 40mm bull-nosed worktop faced and edged in high pressure laminate grade HGS (EN 438).
Balancing laminate to be provided in accordance with BS 4965.
4. Finish/ Colour: To architects approval



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5. Dimensions: as per dwgs A-01 & A-02
 - 5.1. Plan size: as per dwg A-01 & A-02 and confirmation on site
 - 5.2. Thickness: 40mm
 - 5.3. Height: 900mm
6. Front edges: bull-nose profile
 - 6.1. Cut edges: formica veneer
7. Support: as per manufacturers recommendations
8. Cutouts: Required
9. Integral accessories: 200mm formica upstand to back of worktop to act as splashback. To be formed in one piece with worktop.

240 Blinds

1. Description: To existing Science Classroom windows (all windows)
2. Standard: To BS EN 13120.
3. Manufacturer: Contractor's choice
4. Type: Vertical roller. 34mm roll formed steel tube roller and integral automatic clutch position locking mechanism. Operation by endless chrome metal chain secured to the wall with a safe side / face device at a minimum of 1500mm from finished floor level by prior agreement with the project architect
5. Dimensions: as per window sizes
6. Material: Fed. Spec. CCC-C-521E for fire retardency, NFPA 701 Small-Scale and/or NFPA 701 Large-Scale requirements. Anti-microbial without topical treatment. NY State Fire-Gas Toxicity Text: LC50 22.5 g. ASTM E-84-90: Flame Spread 17, Smoke Density Index 118.

Fabric shall be reversible Dim out, flame retardant, composition 28 % Fibreglass/72% Vinyl tested to BS 5867: Part 2 Type B.

 - 6.1. Finish/ Colour: To be approved by architect
7. Operation: Manual. Bottom of blind finished with a concealed weight bar and standard hem
8. Mechanism endurance: Class 1
9. Accessories/ Other requirements: Overhead mounted bracket fixed
10. Performance requirements:
 - Light transmission values in the 9% to 12% range
 - Solar absorption in the 17% to 20% range
 - Openness factor in the 3% to 5% range (3% may be more appropriate in South facing elevations, subject to mock-up on site)
 - Optimum shading co efficient.
 - **In addition on East and South facing elevations a second blind, with an openness factor of 1%, should be fitted to the classroom window nearest to a teaching wall containing an interactive whiteboard for use only when the interactive whiteboard is subject to direct sunlight, i.e. early in the morning, low winter sun, etc.**



Execution

710 Moisture content of wood and wood-based boards

1. Standard: [BS EN 942](#)
2. Moisture content on delivery: 9-13%
3. Temperature and humidity: During delivery, storage, fixing and to handover maintain conditions to suit specified moisture contents of timber components.

760 Sealant bedding and pointing

1. Application: As section Z22.
2. Bedding: *Laboratory sinks to top of worktop. Sinks to underside of worktops.*
3. Pointing: *Joints between units and floor finish.*
Joints between plinth and floor finish.

770 Trims

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

Completion

910 General

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

920 Appliances

1. Test: Ensure that all functions and features work correctly.
2. Documentation: Submit guarantees, instruction manuals, etc.

Ω End of Section



N12

Commercial catering fittings, furniture and equipment

Products

320 Worktops

1. Description: All worktop surfaces
2. Manufacturer: Contractor's choice
 - 2.1. Product reference: Submit proposals
3. Dimensions: As per dwgs A-01 & A-02
4. Material: 40mm bull-nosed worktop faced and edged in high pressure laminated grade HGS (EN 438). Balancing laminate to be provided in accordance with BS 4965
5. Finish/ Colour: To be agreed with client
6. Exposed edges: 20mm laminated faces
7. Support: Base fitted furniture as per dwgs A-01 & A-02
 - 7.1. Finish/ Colour: To be agreed with client
8. Verification: samples
 - 8.1. Submittals: for approval
 - 8.2. Timing: 2 weeks before orders are placed

340 Appliances Fume Cupboard

1. Description: Semi-mobile fume cupboard
2. Item: Fume cupboard
 - 2.1. Product reference: Semi-Mobile Ducted Fume Cupboard
3. Dimensions: 1000mm (w) x 700mm (deep) x 1850mm (high)
4. Material: Epoxy Coated Mild Steel Carcass, Safety Glass Sides & Rear Panel, Clear Back Baffle & Top Panel, Counterweighted Front Sliding Sash, Polypropylene Spillage Tray, Profiled Aluminium Aerofoils, Stainless Steel Cill, Restraining Stainless Steel Tether
5. Finish/ Colour: As manufacturers finish
6. Capacity: Average Inflow: 0.4 m/s
Min Working Aperture: 200mm high
Max Working Aperture: 365mm high
Voltage: 230V 50Hz 1ph
Duct Spigot 160mm
Gas & Water Services: Quick release connectors and flexible hose
7. Service connections: Lockable Service Docking Station, stops unauthorised access to mains service supplies, enabling water, waste and gas to be securely locked away when not in use.
 1. 13A switched socket outlet
 2. 1/8" BSP natural gas coupling plug
 3. 1/4" BSP water coupling plug
 4. 1 1/2" BSP waste pipe coupler
 5. Fume Cupboard tether attachment
To be fixed to nearby student pedestal , F.9.
6. uPVC Ventilation ducting approx. 3.5m long with 2 no 90 degree bends within the ceiling space (to use the existing extract in the roof)



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7. Extract fan as recommended by manufacturer

8. Ventilation:: Flexible duct to connect to PVC ducting in which a fan is installed to carry airborne contaminants safely away to an external discharge point - existing ducting for existing fume cupboard to be used for new one. Power fan to be provided to aid extraction, approx.. 3.5m length of ducting within ceiling space with 2 90 degree turns within the ceiling space. Existing exhaust point for existing fume cupboard to be re-used for new cupboard.

9. Power rating: 13A switched socket outlet
10. Other requirements: A one year manufacturer's warranty is to be supplied with the Semi-Mobile Fume Cupboard cabinet. COSHH Regulation Nine stipulates that this type of equipment should be tested and calibrated at intervals of no greater than 14 months to ensure continued safe operation.

400 Dishwashing machines

1. Description: Dishwasher to be provided in Prep Room
2. Manufacturer: Contractors choice
 - 2.1. Product reference: n/a
3. Dimensions: 600mm wide, under counter unit
4. Material: Clients choice
5. Finish/ Colour: Clients choice
6. Energy rating : A rating

410 Refrigeration and freezer units

1. Description: Fridgefreezer to be provided in Prep Room
2. Manufacturer: Contractors Choice
 - 2.1. Product reference: n/a
3. Dimensions: 600 x 600 x 1500mm high freestanding
4. Material: Clients Choice
5. Finish/ Colour: Clients choice
6. Service connections: electrical connection

420 Cupboards and storage units

1. Description: All base counter cupboards as per drawings A-01 & A-02
2. Item: Under counter cupboards
3. Manufacturer: Contractor's choice
 - 3.1. Product reference: Submit proposals
4. Dimensions: As per detail drawings A-01 & A-02
5. Material: 18mm laminated faced and edged MDF backing panel. 20mm laminated faced and edged MDF shelves and doors with high quality adjustable cabinet legs and hardwood plinth board to match skirting height
6. Finish/ Colour: Laminate face - colour to be agreed with client
 - 6.1. Edges: Laminate face - colour to be agreed with client
7. Accessories: 170 x 35mm "D" handles 10mm diameter, high quality, brushed stainless steel finish for doors with locks where indicated on detailed drawings A-01 & A-02



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8. Verification: Samples
- 8.1. Submittals: drawings and visual representation of design
- 8.2. Timing: 2 weeks before ordering

420 Cupboards and storage units Teaching Wall Unit

1. Description: Teaching Wall unit as per dwg A-01
2. Item: Under counter cupboards, high level storage with sliding doors
3. Manufacturer: Contractor's choice
 - 3.1. Product reference: Submit proposals
4. Dimensions: As per detail drawings A-02, Teaching Wall F.12
5. Material: 15mm laminated faced and edged MDF backing and side panels. 20mm laminated faced and edged MDF shelves and doors with high quality adjustable cabinet legs and hardwood plinth board to match skirting height. Aluminium sliding door faced with white board or notice board material (selected in consultation with the school) on heavy duty, high quality sliding rail system, fitted with locking device and rubber finger protectors to the high level storage. Heavy duty, high quality adjustable shelving system within high level storage area.
6. Finish/ Colour: Laminate face - colour to be agreed with client
 - 6.1. Edges: Laminate face - colour to be agreed with client
7. Accessories: 170 x 35mm "D" handles 10mm diameter, high quality, brushed stainless steel finish for doors with locks where indicated on detailed drawing A-02
8. Verification: Samples
 - 8.1. Submittals: drawings and visual representation of design
 - 8.2. Timing: 2 weeks before ordering

420 Cupboards and storage units Classroom Storage F.3

1. Description: Classroom storage unit with internal adjustable shelving and sliding front doors
2. Item: Built-in storage unit
3. Manufacturer: Contractor's choice
 - 3.1. Product reference: Submit proposals
4. Dimensions: As per detail drawing A-01
5. Material: Shelves, facing and side panels to be in 20mm MDF with laminate faces and edges. Framework/carcass to be 100 x 38mm or 50 x 50mm softwood timber studs. Heavy duty, high quality sliding door system with a robust aluminium sliding door faced with white-board or notice board material.
6. Finish/ Colour: Laminate face - colour to be agreed with client.
 - 6.1. Edges: Laminate face - colour to be agreed with client.
7. Accessories:
 - Heavy duty, high quality adjustable shelving system with supports at max. 600mm crs
 - Robust aluminium sliding door, faced with white-board or notice board material (to be agreed with client)
 - Heavy duty, high quality sliding door system
 - 20mm MDF shelf, laminated finish (finishes and edges)
8. Verification: Samples



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8.1. Submittals: drawings and visual representation of design

8.2. Timing: 2 weeks before ordering

420 Cupboards and storage units High level storage cupboards F.4

1. Description: High level, wall fixed storage cupboards
2. Item: Built-in furniture
3. Manufacturer: Contractor's choice
 - 3.1. Product reference: Submit proposals
4. Dimensions: As per detail drawing A-01
5. Material: Shelves, facing and side panels to be in 20mm MDF with laminate faces and edges. Framework/carcass to be softwood timber studs.
6. Finish/ Colour: Laminate face - colour to be agreed with client.
 - 6.1. Edges: Laminate face - colour to be agreed with client.
7. Accessories:
 - 200mm high quality stainless steel 'D' door handles
 - All laminated pieces to be formaldehyde free MDF with high pressure laminate grade HGS
8. Verification: Samples
 - 8.1. Submittals: drawings and visual representation of design
 - 8.2. Timing: 2 weeks before ordering

420 Cupboards and storage units Student Pedestal Unit F.9

1. Description: Student Pedestal unit F.9, with laboratory sink, gas outlets and electrical supply built in. (4 no. to be provided)
2. Item: Freestanding pedestal unit
3. Manufacturer: Contractor's choice
4. Dimensions: As per detail drawing A-02
5. Material: Shelves, facing and side panels to be in 20mm moisture resistant MDF with high pressure laminate grade HGS (EN438), with 2mm laminate to all edges. Worktop surfaces to be 32mm solid Iroko glulam that is chemical and heat resistant. Framework/carcass to be 100 x 38mm softwood timber studs.
6. Finish/ Colour: Laminate face - colour to be agreed with client, Iroko Glulam worktop to be finished to manufacturers spec for heat and chemical resistance - clear, transparent medium.
 - 6.1. Edges: Laminate face - colour to be agreed with client, Iroko Glulam worktop to be finished to manufacturers spec for heat and chemical resistance - clear, transparent medium.
7. Accessories:
 - 170 x 35mm "D" handles 10mm diameter, high quality, brushed stainless steel finish for doors with locks.
 - To be provided with 2 No. twin gas outlets with lever control and serrated nozzle outlet with anti-rotation pin. Brass body with anti-corrosive plastic coating to EN13792.
 - 256 x 108 x 150mm laboratory sink, drop-into cast epoxy resin. Waste to be acid resistant.



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- Laboratory tap, 600mm high, twin side outlet and single top outlet bib tap, brass body with anti-corrosive plastic coating to EN13792, serrated nozzle outlets. Cold water supply.
 - Polypropylene dilution recovery trap 2.3 litres, anti-siphon, emptied by unscrewing the base from the trap, certified resistance to chemicals to be provided to laboratory sink.
 - 2 no double electrical sockets to be provided on each pedestal as per drawing A-02
8. Verification: Samples
- 8.1. Submittals: drawings and visual representation of design
- 8.2. Timing: 2 weeks before ordering

420 **Cupboards and storage units Accessible Student Pedestal Unit F.10**

1. Description: Height adjustable Accessible Student Pedestal unit F.10, with laboratory sink, gas outlets and electrical supply built in. (1 no. to be provided)
2. Item: Freestanding pedestal unit
3. Manufacturer: Contractor's choice
 - 3.1. Product reference: Submit proposals
4. Dimensions: As per detail drawing A-02
5. Material: Shelves, facing and side panels to be in 20mm moisture resistant MDF with high pressure laminate grade HGS (EN438), with 2mm laminate to all edges. Worktop surfaces to be 32mm solid Iroko glulam that is chemical and heat resistant. framework/carcass to be 100 x 38mm softwood timber studs.
6. Finish/ Colour: Laminate face - colour to be agreed with client, Iroko Glulam worktop to be finished to manufacturers spec for heat and chemical resistance - clear, transparent medium.
 - 6.1. Edges: Laminate face - colour to be agreed with client, Iroko Glulam worktop to be finished to manufacturers spec for heat and chemical resistance - clear, transparent medium.
7. Accessories:
 - 170 x 35mm "D" handles 10mm diameter, high quality, brushed stainless steel finish for doors with locks.
 - Sink unit part of pedestal is to be manually adjustable with winder from 800 - 1020mm above finished floor level as per details on dwg A-02.
 - To be provided with 2 No. twin gas outlets with lever control and serrated nozzle outlet with anti-rotation pin. Brass body with anti-corrosive plastic coating to EN13792.
 - 256 x 108 x 150mm laboratory sink, drop-into cast epoxy resin. Waste to be acid resistant.
 - Laboratory tap, 600mm high, twin side outlet and single top outlet bib tap, brass body with anti-corrosive plastic coating to EN13792, serrated nozzle outlets. Cold water supply.
 - Polypropylene dilution recovery trap 2.3 litres, anti-siphon, emptied by unscrewing the base from the trap, certified resistance to chemicals to be provided to laboratory sink.
 - 2 no double electrical sockets to be provided on pedestal as per drawing A-02
8. Verification: Samples
 - 8.1. Submittals: drawings and visual representation of design



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8.2. Timing: 2 weeks before ordering

430 Shelving

1. Description: Shelving within storage cupboard and Chemical Store
2. Manufacturer: Contractor's choice
 - 2.1. Product reference: Submit proposals
3. Shelves
 - 3.1. Material: 20mm MDF laminated (faces and edges)
 - 3.2. Finish/ Colour: To be agreed with client
4. Accessories: Heavy duty, high quality adjustable shelving system at max. 400mm crs. Each shelf must be capable of supporting a uniform distribution load of 225kg
5. Verification: Samples
 - 5.1. Submittals: drawings
 - 5.2. Timing: 2 weeks before ordering

Execution

610 Moisture content of wood and wood-based boards

1. Control and monitoring
 - 1.1. Method statement: Submit

620 Installation generally

1. Fixing and adhesives: As section Z20
2. Services: As engineering Services specification

630 Installing equipment, units, appliances and worktops

1. General: Well-fitting, stable and secure.

640 Services to equipment, units and appliances

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

650 Installing sinks, taps, traps and wastes

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

660 Sealant bedding and pointing

1. Application: As section Z22.
2. Bedding: Sink to top of worktop
3. Pointing: Between units and floor



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670 Trims

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

Completion

910 General

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

920 Equipment, units and appliances

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

Ω End of Section



N13

Sanitary appliances and fittings

Clauses

Read in conjunction with Preliminaries and general conditions

Products

25 Sinks Laboratory Sinks for pedestal F.9

1. Description: Sinks for student pedestals F.9
2. Type: Laboratory Sink
3. Manufacturer: Contractor's choice
 - 3.1. Product reference: Submit proposals
4. Size: 250 x 250 x 250mm
5. Material: heavy duty fireclay or cast epoxy resin
6. Colour: to be agreed
7. Tap holes: One tap hole, centre
8. Taps: Laboratory Tap, 600mm high, twin side outlet and single top outlet bib tap. Cold water supply.
 - 8.1. Material: Brass body with anti-corrosive plastic coating to EN13792 serrated nozzle outlets
 - 8.2. Size: 600mm high
 - 8.3. Water supply temperature (maximum): cold water
9. Wastes: Strainer
 - 9.1. Standards: To [BS EN 274-1](#), [-2](#) and [-3](#).
 - 9.2. Manufacturer: Contractor's choice
 - 9.2.1. Product reference: Submit proposals
 - 9.3. Size: As manufacturers recommendations
10. Traps: Polypropylene dilution recovery trap 2.3L anti-siphon, emptied by unscrewing the base from the trap, certified with resistance to chemicals.
 - 10.1. Standards: To [BS EN 274-1](#), [-2](#) and [-3](#).
 - 10.2. Manufacturer: Contractor's choice
 - 10.2.1. Product reference: Submit proposals
 - 10.3. Size: 2.3L

25 Sinks Laboratory Sinks for pedestal F.10

1. Description: Sinks for student pedestals F.10
2. Type: Laboratory Sink for accessible pedestal unit
3. Manufacturer: Contractor's choice
 - 3.1. Product reference: Submit proposals
4. Size: 256 x 108 x 150mm
5. Material: heavy duty fireclay or cast epoxy resin
6. Colour: to be agreed
7. Tap holes: One tap hole, centre



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8. Taps: Laboratory Tap, 600mm high, twin side outlet and single top outlet bib tap. Cold water supply.
 - 8.1. Material: Brass body with anti-corrosive plastic coating to EN13792 serrated nozzle outlets
 - 8.2. Size: 600mm high
 - 8.3. Water supply temperature (maximum): cold water
9. Wastes: Strainer
 - 9.1. Standards: To [BS EN 274-1](#), [-2](#) and [-3](#).
 - 9.2. Manufacturer: Contractor's choice
 - 9.2.1. Product reference: Submit proposals
 - 9.3. Size: As manufacturers recommendations
 - 9.4. Material: flexible to be able to rise and fall with adjustable height feature
10. Traps: Polypropylene dilution recovery trap 2.3L anti-siphon, emptied by unscrewing the base from the trap, certified with resistance to chemicals.
 - 10.1. Standards: To [BS EN 274-1](#), [-2](#) and [-3](#).
 - 10.2. Manufacturer: Contractor's choice
 - 10.2.1. Product reference: Submit proposals
 - 10.3. Size: 2.3L

429 Clothes Hooks Lab coat hooks

1.

Form	Individual coat hooks fixed to 150 x 25mm softwood rail as per dwg A-01. Allow for 22 hooks. Rail to be sanded, primed and painted in colour to clients agreement.
Material	Stainless steel.
Finish/ Colour	Brushed.
Diameter	19 mm.
Projection	50 mm.

Execution

610 Installation generally

1. Standards: In accordance with BS 6465-1, -2 and -3 and in accordance with Irish Building Regulations Part M where provision is being made for accessibility
2. Assembly and fixing: Surfaces designed to falls to drain as intended.



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3. Fasteners: Non-ferrous or stainless steel.
4. Fixing: Fix appliances securely to structure. Do not support on pipework.
5. Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes being jointed or bedded.
6. Appliances: Do not use. Do not stand on appliances.
7. Supply and discharge pipework: Fix before appliances.
8. On completion: Components and accessories working correctly with no leaks.
9. Labels and stickers: Remove.

613 Compatibility of components

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

620 Noggings and bearers

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

630 Tiled backgrounds other than splashbacks

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

710 Installing taps

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

720 Installing wastes and overflows

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

755 Sealant bedding and pointing

1. Pointing: Joints between appliances and walls. Joints between appliances and floors

760 Removing sanitary appliances and fittings

1. Extent: In existing science classroom
2. Disposal: Remove from site



N14

General internal signage systems

General

120 Inclusive signage systems

1. Description: Description: Classroom Names, 1 for each teaching space/store in alterations (3 total) as per detail on dwg RE-01
2. System manufacturer: Submit proposals
3. Sign type: Aluminium plate
4. Layout and dimensions: 125mm x 700mm. To include room name, number, department as per dwg RE 08 and agreed with school management
5. Surface: Non-reflective with maximum gloss factor of 15% when tested to BS 2782-5 or BS EN ISO 2813
6. Lettering
 - 6.1. Language: Irish & English
 - 6.2. Font: Sans serif
 - 6.3. Colour: Manufacturer's standard range - to architects approval - to contrast visually with background
7. Characters and symbols: Braille grade 1
 - 7.1. Position: Braille location: to the left edge of sign
 - 7.2. Characters: Raised between 1 and 1.5 mm, with stroke width that allows both sides of the character to be felt with the fingers at a single pass
 - 7.3. Colour: Visual contrast
 - 7.4. Size: 25 mm
8. Background colour: Manufacturer's standard range
 - 8.1. Inserts: None
9. Supports/ fixings: Wall-mounted, screw-fixed
10. To comply with:: BS 8300:2009. Official Language Act 2003,

320 Aluminium

1. Description: base plates for signs
2. Manufacturer: Submit proposals
3. Standard: To BS 559
4. Component thickness: 3mm
5. Finish: brushed with LRV of 30
6. Perimeters: Radiused corners



Execution

610 Fixing signs generally

1. Installation: Secure, plumb and level. The centre line of the sign is to be situated at 1400mm above floor level.
2. Strength of fasteners: Sufficient to support all live and dead loads.
3. Fasteners and or adhesives: As section Z20.
4. Fixings showing on surface of sign: Must not detract from the message being displayed

620 Fixing signs for the visually impaired

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

670 Electrical and data services

2. Services connection required: As per M&E spec
3. Standard: In accordance with BS 7671.
4. Coordinate with services trades.

Completion

910 Documentation

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

Ω End of Section



N17

Portable and mobile firefighting systems

General

000 General

1. Fire extinguishers should conform to British Standard 5423 or BS EN 1869: 1997 and be maintained as outlined in British Standard 5306: Part 3.
Fire blankets to be in accordance with BS 7944
Fire extinguishing installations and equipment to conform with, be installed and maintained in accordance with BS 5306 & BS 6643 & BS EN 3 (parts 1-6) Portable Fire Extinguishers and colour coded in accordance with BS 7863: 1996

001 Manual Firefighting Equipment provision

1. Manual fire fighting equipment will be as follows:
Classrooms 1 x 13A water extinguisher and 1 fire blanket
Staff 1 x 13A water extinguisher and 1 fire blanket
Boiler Room 1 x 13A foam extinguisher
Comms 1 x 13A foam extinguisher and 1 fire blanket
Call Points and 1 x 13A water extinguisher
Exit Doors 1 x 13A water extinguisher
All extinguishers to be wall mounted with handle 1.1m above floor and should be maintained and recharged in accordance with manufacturer's instructions.

10 Portable fire extinguisher system

1. Description For classrooms, call point, exit doors
2. Type: Water
3. Capacity: Submit proposals
4. Supports: Fixing bracket

15 Fire blanket system

1. Description: For areas outlined in 001 above
2. Type: Heavy duty
3. Size: 1.2 x 1.2 m Submit proposals
4. Supports: Mounting brackets

System performance

21 Design

1. Design: Complete the design of the portable firefighting system.
2. Basis: [BS 5306-0](#) and [BS 5306-8](#)
3. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

22 Colour coding

1. Portable fire extinguishers: Colour code in accordance with BS 7863.



Products

330 **Foam portable extinguishers**

1. Standard: To BS EN 3-7 To BS EN 3-10 To BS EN 3-8
2. Manufacturer: Submit proposals

340 **Water portable extinguishers**

1. Standard: To BS EN 3-7 To BS EN 3-10 To BS EN 3-8
2. Manufacturer: Submit proposals

410 **Fire blankets – light duty**

1. Standard: To BS EN 1869.
2. Manufacturer: Submit proposals

420 **Fire blankets – heavy duty**

1. Standard: To BS 7944.
 - 1.1. Type: 1
2. Manufacturer: Submit proposals

Execution

61 **Installing portable fire extinguishers**

1. Mounting height above finished floor level: 1.1m

65 **Installing fire blankets**

1. Mounting height above finished floor level: 1.1m

Completion

91 **Cleaning**

1. Protective wrappings: Remove.
2. Cleaning: Clean off and wipe down container finishes.

92 **Testing**

1. Test standard: To BS 5603-0.
2. Test times: At completion

93 **Training**

1. Training: Submit instruction manuals or supply other appropriate resources to train the users of the building in the safe and appropriate use of the fire extinguishers and fire blankets.
2. Fire brigade: Submit contact details.

94 **Maintenance**

1. Servicing: Arrange the first annual service of the portable firefighting systems.
2. Maintenance standard: To BS 5603-0.



Z10

Purpose made joinery

To be read with preliminaries/ general conditions.

110 Fabrication

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

120 Cross section dimensions of timber

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

130 Preservative treated wood

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

140 Moisture content

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

210 Laminated plastics veneered boards/ panels

1. Fabrication: To British Laminated Plastics Fabricators Association Ltd (BLF) fabricating standards.



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2. Balancing veneer: From decorative veneer manufacturer and of similar composition. Applied to reverse side of core material.
3. Finished components: Free from defects, including bow, twist, scratches, chipping, cracks, pimpling, indentations, glue marks, staining and variations in colour and pattern.
4. Joints visible in completed work: Tight butted, true and flush.

220 Wood veneered boards/ panels

1. Core material and veneers: Conditioned before bonding.
2. Setting out: Veneer features and grain pattern aligned regularly and symmetrically unless instructed otherwise.
3. Balancing veneer: Applied to reverse side of core material.
 - 3.1. Moisture and temperature movement characteristics: As facing veneer.
4. Veneer edges: Tight butted and flush, with no gaps.
5. Tolerance of veneer thickness (maximum): ± 0.5 mm.
6. Finished components: Free from defects, including bow, twist, scratches, chipping, splits, blebs, indentations, glue marks and staining.
7. Surface finish: Fine, smooth, free from sanding marks.

250 Finishing

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

Ω End of Section



Z20

Fixings and adhesives

Products

310 Fasteners generally

- Integrity of supported components: Types, sizes and quantities of fasteners/ packing's and spacings of fixings selected to retain supported components without distortion or loss of support.
- Components/ substrates/ fasteners of dissimilar metals: Fixed with isolating washers/ sleeves to avoid bimetallic corrosion.
- General usage: To recommendations of fastener manufacturers and/ or manufacturers of components, products or materials fixed and fixed to. • Appearance: As approved samples.

120 Fastener Durability

- Fasteners not directly exposed to weather: Of corrosion resistant material or with a corrosion resistant finish.
- Fasteners directly exposed to weather: Of corrosion resistant material.

320 Packings

1. • Function: To take up tolerances and prevent distortion of materials/ components.
2. • Materials: Non compressible, non-corrodible, rot proof.
3. • Locations: Not within zones to be filled with sealant.

170 Nailed Timber Fixings

- Nails: To BS 1202. • Penetration: Fully driven in without splitting or crushing timber.
- Surfaces visible in completed work: Nail heads punched below surfaces.
- Nailed timber joints: Two nails per joint (minimum), opposed skew driven.

180 Fixings to Masonry

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

220 Screw Fixings

- Screws: To BS 1210.
- Finished level of countersunk screw heads:- Exposed: Flush with timber surface- Concealed (holes filled/ stopped): Sunk minimum 2 mm below surface.
- Washers and screw cups: Of same material as screw.

230 Pelleted Countersunk Fixings

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

240 Plugged Countersunk Fixings

- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.



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- Plugs: Glued in to full depth of hole.
- Finished level of plugs: Projecting above surface.

250 Powder Actuated Fixing Systems

- Powder actuated fixing tools: To BS 4078-2 and Kitemark certified. Operatives trained and certified as competent by tool manufacturer.
- Types of fastener, accessories and consumables: As recommended by tool manufacturer.
- Protective coating to exposed fasteners used externally or in other locations subject to dampness: Zinc rich primer to fastener heads.

340 Masonry fixings

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

350 Plugs

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

360 Anchors

- Types:
- o Expansion: For use in substrate strong enough to resist forces generated by expansion of anchor.
 - o 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.
 - o Cavity: For use where the anchor is retained by toggles of the plug locking onto the inside face of the cavity.

390 Adhesives generally

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

410 Powder actuated fixing systems

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

Execution

610 Fixing generally

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



620 Fixing through finishes

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

630 Fixing packings

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

640 Fixing cramps

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

670 Pelleted countersunk screw fixing

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

680 Plugged countersunk screw fixing

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

690 Using powder actuated fixing systems

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

700 Applying adhesives

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

Ω End of Section



Z22

Sealants

100 Mastic Sealants

Manufacturer and reference: Sika Ltd.Ref: Sikaflex 11FC. Colour: Grey

120 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.

Execution

610 Suitability of joints

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

620 Preparing joints

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

630 Applying sealants

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

Ω End of Section



Architects Specification: Inver College
• **Science classroom Refurbishment**



Keys and Monaghan architects

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