



Techrete

Cambridge Halls 2520

Techrete Quality Assurance Plan & Test Inspection Plan

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	QAP 2520 Cambridge Hall (CBR)	Date: 13/02/2026

Techrete Quality Assurance Plan for

Client: **Grahams.**
 Package No: **2520.**
 Package Name: **Cambridge Halls (CBR).**
 Location: **Cambridge Halls, Manchester University, Manchester, M15 6BX.**

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Revision No./date and change description		
Revision	Issue date	Change description
01	13/02/2026	Original issue.

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*All Techrete's internal procedures/manuals (including Quality Assurance Plan) are kept in electronic version in the TIMS (Techrete Integrated Management System) on the main server.

B. Purpose Overall procedure that describes Quality Assurance Process (activities) through the whole project.	C. Scope It covers all activities/processes of Techrete through Tender, Design, Manufacture and Construction stages.
D. References Refer to TIMS (Techrete Integrated Management System) – kept on the main server.	E. Definitions/Abbreviations TIMS – Techrete Integrated Management System: The Manual is the authoritative document of the Integrated Management System for quality and safety at all plants, sites and offices belonging to Techrete. – available from the main server (only the electronic version is valid)
F. Attachments 1. Techrete Organisation Chart 2. Quality Policy & Certificates 3. List of suppliers 4. Unit Tracing Label 5. Form 001 Unit Tracing Sheet	6. Form 002 Non-Conformance Report 7. Form 9.ii.a Defect Action Sheet 8. First stage Handover; Second stage Handover; Final Stage Handover 9. Form 3.1.7 Incoming Drawing Register

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0.1 Tender (Commercial) Stage

0.1.1 Project Information Sheet

The Project Estimator (PE) prepares a Project Information Sheet (PIS) and issues a copy to the Technical Director and Project Engineer (PE), together with all the relevant documentation. The PS retains the master copy on File.

The PIS will typically contain the following information: issue date, approval (signature), project name and reference number, scope of works, contact names and phone numbers for Architect, Engineer and Main Contractor, programme duration and job specific requirements (including specification, attendance's and transport).

The PE circulates a copy of the PIS to the PD/ EC (External Consultant). The PE where required sends Request for Information letter(s) to the Client requesting the following information by a certain date:

- Architectural, structural and builders works drawings
- Specifications and drawing register.
- Project Programme including site delivery dates (if not already provided with the order).
- Site details relating to erection, craneage etc.

0.1.2 Interface with Planning Department

Information (re unit types, number of units, unit references etc) is sent to the Planning Department to enable both the design and production stages of the project to be programmed. The PE will notify the Planning Manager of any variations or additions to a project that may affect the overall programme (Reference: Procedure - 'Pre-contract Planning & Design').

0.1.3 Scope of works

Design, manufacture, delivery and erection of recon and brick precast panels:

1. Precast Cladding panels.
2. Complete with all brackets and fixings.
3. Panel to panel colour-matched sealing.

0.1.4 Programme frame

The works are due to commence on site as per 3Bar programme (Design – Manufacture – Erection) agreed with the client.

Resources to be provided:

Design of pre-cast panels

Precast concrete panels.

Brackets and fixings

Erection and sealant crew(s) as required (subcontractor) under Techrete's management.

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0.1.5 Responsibilities

The **Project Manager** is Project Team leader: the team being assembled from Estimating, Design, Manufacture, Surveying and Construction departments. His main responsibilities are:

- Identifying every aspect of the scope of works and communicating these as necessary.
- Keeping all departments and the client informed through both formal and informal reporting.
- Facilitating decision-making processes by assembling all the necessary information to allow others to consider all available options. The Project Manager does not ordinarily make decisions in isolation or without consultation.
- Maintaining records and following agreed procedures. Recording all events during the progress of the project to ensure easy reference and traceability should it be required later.
- Ensuring the seamless transition from tender through all departments to the final client handover and financial closure on a project. Establishing and maintaining client relations.
- Ensuring that the project team is established and good internal relations maintained. Acting as team leader and responsible for the performance of the team and the inter-company links. Identifying any internal failure creating disruption to the project and pro-actively dealing with any internal blockages to ensure the general progress of the project.
- Providing feedback/ close out report to ensure that 'lessons learnt' are recorded and are used to the benefit of future tenders/ projects.

The **Head of Construction** appoints the Site Manager and ensures that any subcontractors used comply with the requirements of this Project Plan.

The **Project Engineer** and **Project Draughtsman** communicate with the project professional team and supply full specifications for all works to Production and Construction personnel.

The **Site Manager** manages all day-to-day activities on site, in particular:

- Seeing that all works are carried out safely, with minimal environmental impact and in accordance with the specification, drawings and programme (DPP).
- Daily communications and co-operation between Techrete, the client and any sub-contractors.
- Communicating the schedule for panel (and other) deliveries is to the transport co-ordinator.
- Seeing that detailed method statements are drafted, than approved and followed as required.
- Seeing that all works are checked fully and offered to client and/or the Design Team free from defect. Evidence of checks to be provided if requested.

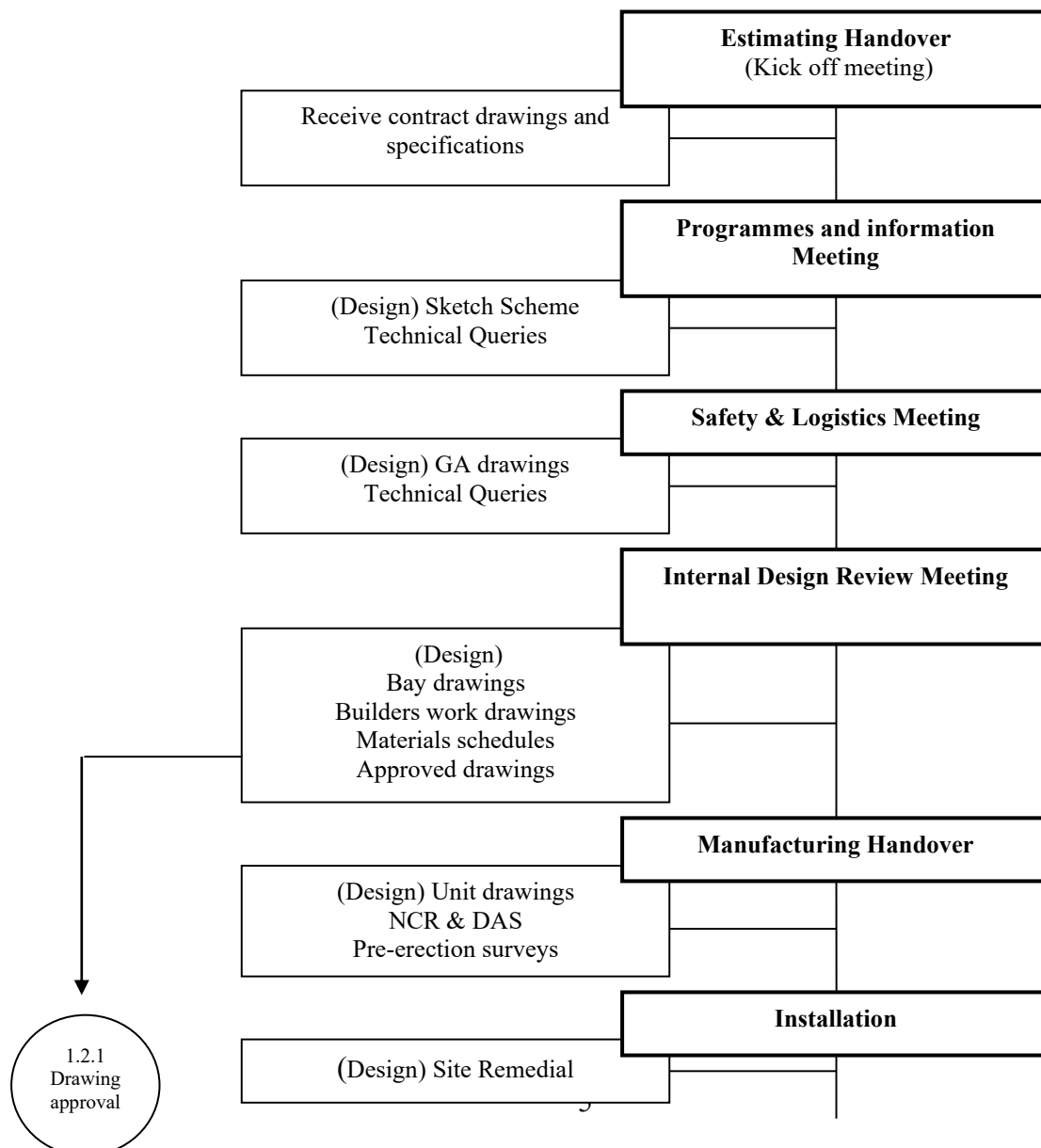
The details are available from Method Statement.

Up-to-date organization chart is in attachment (No.1)

1.0 Technical (Design) Stage

1.1 Kick off meeting (Handover)

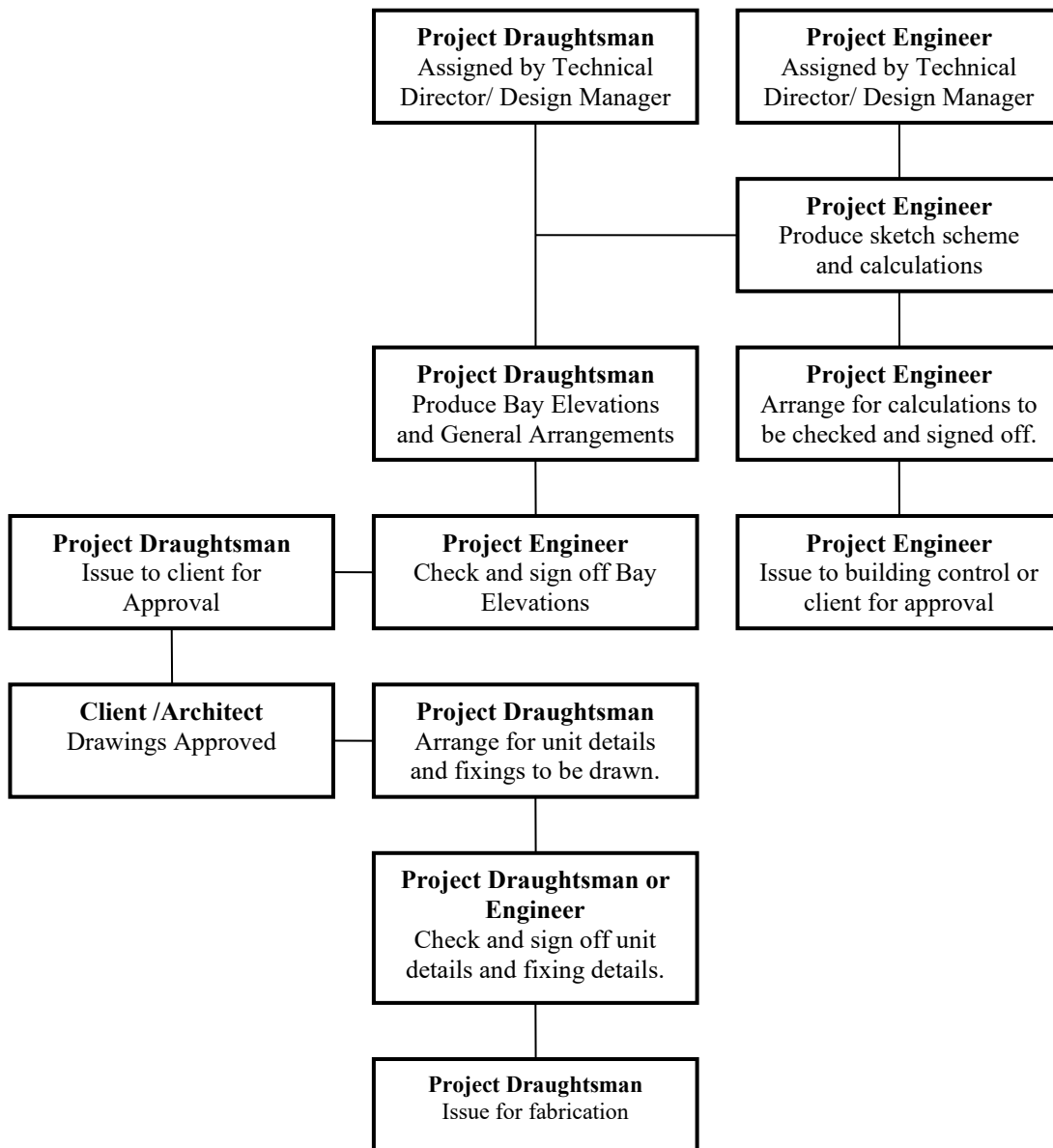
- 1.1.1 Following the receipt of a new project there is a handover meeting from estimating to the project team. The Project Estimator (PE) will arrange this meeting. He/She will advise the technical director who will in turn appoint an engineer and draughtsman. The engineer and the draughtsman will attend the meeting.
- 1.1.2 The purpose of the meeting is for the estimator to brief the project team about the project. The agenda and minutes are prepared by the PE . The design team should ensure that they fully understand the scope of works and programme that has been agreed at tender stage. The PIS is now entered directly onto the Techrete Integrated Planning System (TIPS).
- 1.1.3 Below flow – chart presents process flow of Design Stage:



1.2 Design Management

1.2.1 Drawing approval

The procedure applies to all technical work completed between the hand over meeting and issue of the final contract drawings. Design works can be provided by external Design Office. However, all drawings are verified/approved as shown on the flow-chart:



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1.2.2 Document Control

We receive drawings from client design teams, main contractors, other sub-contractors and internal design sub-contractors. We produce drawings and issue these to each of the parties above as appropriate, as well as material suppliers. These are then returned and we action the comments on the returns. Our final drawings are then issued internally for manufacture and installation. Each of these issues and returns are recorded in the drawing register. We also receive a specification, which is registered, and issue specifications, method statements and materials approvals.

For each drawing we receive we record as follows:

Paper

After they have been date-stamped by Reception and recorded into the drawing register, drawings are to go directly to the Drawing office for distribution. (see attachments No. 11)

Email

When drawings are received by emailed they shall be saved on the R:/Project No./"A" or "B" or "C". All incoming emails are automatically emailed to reception, where they are stored on the Central File in W:/. These files are to remain zipped. A copy of the email should be printed at reception and filed in the Central File

On-line Collaboration document control

Files will be down loaded from 4P by the Projects Draughtsman and stored under R:/Project No./"A" or "B" or "C" or "D" and "E" /Drawing No. – file number - file name.

For each drawing we issue we record as follows:

Paper

The drawing register sheet will accompany all drawings showing the date issued, revision. The distribution will show how the drawings have been sent (see attachments No. 12).

E-mail

Drawings will be zipped and attached to the outgoing e-mail by the PD. The drawing registrar sheet will accompany all drawings showing the date issued, revision and status of the drawings. The distribution will show how the drawings have been sent.

Location for Excel format of the Drawing register sheet is stored in R:/Project

Directory/Printroom Files/Project No.- Transmittal.

Online collaboration document control

Files will be up-loaded to the designated online portal by the P.D. / Printroom and issued accordingly to the standards and procedures set out by the contract.

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2.0 Manufacture (Production) Stage

2.1 Subcontractors

Techrete has long-standing relationships with a number of sub-contractors, who supply labour for the on-site erection of panels. In all cases, the sub-contractor will work under the instruction and supervision of Techrete's Site Manager, who is responsible for their on-site induction and familiarisation with Techrete's and client's Method Statement and Procedures. As all information is conveyed through the Techrete Site Manager, the sub-contract labour functions effectively as part of Techrete's organisation.

Periodically all subcontractors are evaluated according to attachment No. 7 "Form P03_Supplier_Subcontractor Periodic Review".

2.2 Suppliers

The Purchasing Manager evaluates all suppliers on a regular basis. The results of supplier's evaluation are recorded and retained in the approved suppliers file. Verification arrangements will be addressed in the suppliers file according to procedure: Material / Supplier Qualification (Appendix 2 (3.1.1 Purchasing Procedure Manual)).

Potential suppliers will be added to the approved supplier list if they are deemed by the PM to satisfy at least one of the following criteria: -

- A satisfactory review of performance history
- A successful audit of their activities
- Recognition of a suppliers third party accreditation (e.g. ISO 9001)
- Nomination by a Client/ Architect/ Contractor

All quality records including supplier evaluation, order documents etc. will be made available for Client inspection if so required.

2.3 Good Inwards

The Purchasing Manager (or nominee) checks incoming goods against the Delivery Docket and the Order Form, to ensure the correct quantity, general condition of delivery (undamaged) according to specification has been delivered. Deliveries of sands and aggregates are checked against control samples held in the laboratory for colour and size (each delivery). Delivery dockets are only signed when the delivered materials are accepted. The signed delivery docket is a record of the check carried out on the incoming materials.

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2.4 Pre-casting Inspections

- 2.4.1 The Assistant Production Manager (APM) (or his designated Team Leader) certifies moulds correct prior to casting, on the Unit Tracing Label (see attachment No. 4: Unit Tracing Label) attached to the unit. Moulds will be checked to ensure integrity of mould surface and dimensional accuracy in accordance with the relevant unit drawing.

He will verify the inspection of the following:

- Stones* and bricks* are checked to match an agreed sample and placed in the mould correctly.
- The mould release agent has been correctly applied to stopends and side formers.
- Reinforcement cages are correctly positioned for design cover, securely located in the mould and free from contaminants.
- Cast in components are the correct size, type, quantity and that they are correctly located and fixed to the mould.
- Additional items (where required) such as weep tubes or dowel formers shall be inspected for correctness of installation and adequacy.

Stone or brick will be placed at the front face of the panel and this will be securely keyed into the grey concrete mix used for the body of the panel (if applicable for this project)*.

* = if applicable

2.5 Post-casting Inspection

- 2.5.1 All units cast are inspected after demoulding by the Quality Control Inspector. NCRs are investigated during weekly meeting to confirm the problem and undertake emergency action
- 2.5.2 In addition time to time there is a Drill Deep Investigation meeting where all main problems are investigated to find out the real root cause and implement corrective actions that would eliminate or minimize the root cause and prevent against reoccurrence.
- 2.5.3 Units are inspected to ensure conformity to the following specified requirements - length, width, depth, bow, twist, squareness, curvature, cast-in fixings and reference number. Acceptable tolerances shall be in accordance with Table II of BS8297 & Project Specification.
- 2.5.4 The results of the Post-casting Inspection are recorded by the Quality Control Inspector on the existing Unit Tracing Sheet Section II (section 1 may be left blank) - see attachment No. 5.

2.6 Post-finishing Inspection

- 2.6.1 Pre-delivery inspections of units are carried out by a Quality Control Inspector (Finishing). Units are inspected to ensure conformity to the specified requirements concerning appearance, colour and shades of panels. Reference is made to the approved samples. The results of the Finishing Inspection are recorded by the QCI on the existing Unit Tracing Sheet Section III.
- 2.6.2 All repairs to panels are carried out by a specialist finisher using an approved repair mix.
- 2.6.3 All units will be available for inspection by the Client's representative regardless of state of finish, if so required.

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2.7 Client Inspection

- 2.7.1 A Client inspection of the first panels cast will be arranged by the Techrete project manager.
- 2.7.2 All client comments are to be recorded and any defects or anomalies to be made good as agreed. If a further visit is required then the Techrete project manager will arrange with the client.
- 2.7.3 The panels inspected will be recorded as benchmarks and will form the basis of the Techrete post cast inspections going forward.
- 2.7.4 Based on the agreed benchmark panels all future production will be measured against the benchmark panels.
- 2.7.5 During production all units are inspected/monitored according to internal procedures as per 2.5.1 item above

2.8 Product Testing

2.8.1 Concrete cube Test

- a) Cube are taken in line with the sampling procedure in EN 206 and are crushed at 28 days by our internal laboratory.
- b) Results are recorded by cast date and can be compared to the casting dates of the units. The workability of the concrete mix is monitored.

NOTE: Refer to: All procedures are established based on BS and/or EN standards)

2.9 Control of Inspection, Measuring & Test Equipment

- 2.9.1 It is the responsibility of individuals using equipment to ensure that equipment is within its calibration period. The Quality Manager arranges for calibration work to be carried out by an approved contractor.
- 2.9.2 Records of Laboratory and Batching Plant calibration are maintained by the Concrete Technician and the Plant Master operator. The Safety Manager retains calibration records with noise-survey results and purchase-order forms.
- 2.9.3 The equipment to be calibrated:

Laboratory Equipment

- The laboratory scales are calibrated by an external agency every six months.
 - The cube (compression) testing machine is calibrated by an external agency every year.
- The equipment is marked (where possible) to indicate the status of calibration and the date of the next calibration check.

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Batching Equipment

- The batching equipment, comprising load cells on weight hoppers, are checked and calibrated every 6 months by an external agency.

2.10 Unit Identification & Traceability

Each unit is identified with an ID label with project reference, unit reference number, cast number, date of cast and the unit weight. Should the label become detached, the QC inspector will mark the details on the panel.

2.11 Control of Non Conforming Product

- 2.11.1 Non conformances are identified by QC Inspectors in the normal course of duties. Where a non conformance is identified, a Non Conformance Report (NCR) is raised (see attachment No. 8 “Form 002 Non Conformance Report”). Each NCR has a unique 4-digit NCR number.
- 2.11.2 Depending on the non conformance, the units will be either
 - (a) scrapped and remade
 - (b) repaired, or-
 - (c) used as is
- 2.11.3 Units requiring remedial action are identified by a diagonal mark on the self-adhesive label. The originator of the ‘NCR’ report indicates on the relevant Unit Tracing Sheet that a non-conformance report has been raised.
- 2.11.4 Units scrapped will be marked ‘Scrapped’ in a suitable location with a wax crayon by the Quality Control Inspector. He will also enter this on the UTS.
- 2.11.5 On ‘Closing Out’ of the NCR the QCI fills the box on the unit (or self-adhesive label), which signifies that the unit is finished to the required standard and is ready for dispatch. Any QC marking will be on the concrete backing and not on an exposed surface. The QCI also updates the UTS.
- 2.11.6 A copy of the ‘closed-out’ NCR will be filed with the associated Unit Tracing Sheet and retained.
- 2.11.7 All defects (non-conformities) from site are reported on the DAS sheet (detailed description in section 3. Construction)

2.12 Corrective & Preventive Action

- 2.12.1 The need for corrective and preventative actions typically arises from:
 - (a) External Quality Audits
 - (b) Internal Quality Audits
 - (c) Inspection (in-house or on-site)
 - (d) Customer Complaints

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2.13 Quality Audits and Document, Records Control

2.13.1 The internal audit schedule is divided into two sections:

- Each process (including site) is audited internally at least once per year. An Internal Quality Audit Schedule is prepared by the Quality Manager annually. Audits are documented and stored.
- Monthly Safety and Management audits by Safety Manager, which will include Environmental issues and basic Quality documentation. Audits are documented and stored.

2.13.2 External audits by the Client may be arranged in conjunction with Techrete's Quality Manager.

2.13.3 All documents, records are controlled according to Quality Procedure (QP001) and Design Office Procedures (available at Techrete office). Retention period and localization of above mentioned records are listed in below table No. 2.

Record	Paper / Electronic	Location	Retention period
Management review	P / E	Quality Files	5 Years
Personnel files (competence)	P	Administration	Employee Service + 1 yr
Training records	P/E	Training Files	Employee Service + 1 yr
Inspection and test results	P	Production	7 Years
Maintenance Records	P/E	System	5 Years
Customer drawings and specs	P/E	Project Files	7 Years
Project records	P/E	Project Files	7 Years
Tender documents	P/E	Project Files	7 Years
Design project files	E	Project Files	7 Years
Supplier ratings	E	System	3 Years
Corrective action requests	P	Quality Files	5 Years
Corrective action log	E	Quality Files	5 Years
Calibration records	P	System	5 Years
Internal audit reports	P	Quality & Safety Files	5 Years
Internal audit schedule	E	Quality Files	5 Years
Scrap records	E	System	3 Years
Concession requests	P	Quality Files	5 Years
Concession log	E	Quality Files	5 Years
Preventive maintenance records	P	Production	3 Years
Purchase orders	E	System	7 Years
Accident records	P/E	System	10 Years (40 Years in chemical contact)
Incident records	P/E	System	10 Years
Noise survey reports	P/E	Safety Files	30 Years
Occupational hygiene reports	P	Safety Files	30 Years
Health surveillance reports	P	Safety Files	30 Years
Risk assessments	E	System	10 Years
Chemical/ COSHH assessments	P/E	Safety Files	10 Years
Statutory certificates (e.g. for lifting equipment)	P	Equipment Files	Lifetime of equipment
Reports on equipment (e.g. ladders)	P	Safety Files	3 Years
Fire equipment & fire drill records	P/E	Safety Files/ With Equipment	3 Years

Table No. 2

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2.14 Method Statement and Safety Files, O&M Manual

2.14.1 Method Statement together with Safety Files (risk assessment, COSHH assessment, etc.) is prepared as described in 2.4.1 Project Management Manual, Section 9.0:
 “As described previously during the project a series of internal meetings held i.e. Safety and Logistics, Transport, Insulation etc. The minutes of these meetings together with the FL and BE drawings will form the basis of the preparation of a site installation method statement and risk assessments. These documents should be prepared by the construction department with the assistance of the Project Manager and Safety Manager on any relevant matters specific or otherwise to the project. This information should be reviewed and discussed at the handover from design to construction. During the preparation of the above documents cognisance should be made of the procedures within the Techrete Health and Safety Manual.”

2.14.2 O&M Manual

An O&M manual, detailing the future inspection, maintenance, repair and cleaning regime, will be developed by Techrete’s H&S Manager through whole project to the specification of Techrete and client and this will be submitted as required. This will include a listing of the as-built drawings set. This will also cover all documentation needed under CDM regulations pertaining to residual risks.

2.15 Handling, storage and protection

2.15.1 It is essential, in order to maintain the integrity and quality of the finished units, that adequate consideration is given to the protection of the consigned product and the positioning/ form of bearing etc. in order to avoid damage in loading, transportation and unloading.

Protection should be applied to all vulnerable bearing points, surfaces, corners and arises, with particular care being given to exposed, 'seen' faces.

Protection should consist of adequate thickness of softening, such as, coconut loading-mats, foam or similar. In addition straps/ chains etc. used to secure the load should bear on suitable corner protectors to protect the product and avoid chaffing damage in transit.

Note:

Coconut mats may cause staining to units if damp or wet and left in contact for any length of time. Therefore they should only be used to pack unseen faces (or wrapped in polythene to prevent staining). Care must be taken in freezing conditions as precast units stored on frozen packing may slide.

Thickness of packing or timber should be adequate to prevent unit-to-unit, unit to bearer or unit to steel frame contact in the event of compression. Compression of packing may result in loosening of straps in transit. Drivers must check the tightness of straps periodically.

Precast units must be prevented from coming into contact with steel frames during transit. Consideration should be given to the permanent fixing of protection to all bearing faces of steel frames

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Under heavy braking, units / pallets may move on the trailer and consideration must be given to preventing such movement by choking (protected) or tension strapping of units.

2.15.2 Flat Loading

When loading units flat they should be loaded face Up to enable pitching to take place bearing on the rear face whether from the lorry or from store / ground. When restraining stone faced units (face up) timber strap bearers or fabricated timber corners (with softening) should be considered.

Bearers should generally be placed at 5th points along the span (or to Project Engineers instruction). To maximise loading "like / similar" units may be stacked one on top of another. Care must be taken to ensure bearers are kept in line vertically. Units stacked in this way should not be more than 3 high.

Timber bearers should be constructed such that they do not extend past the outer seen arras of the units.

They should generally be stopped off 75 mm from such a corner (Recon face) or stone thickness +25mm (stone faced) thus relieving corner pressure and preventing arras-damage at the bearer.

Bearers should be of sound timber cut to size for the purpose de-nailed as necessary and profiled in construction to accommodate cast-on features. Sufficient clearance to features should be designed to allow for compression of adjacent softening during transit etc and avoid damage to such features. Bearers should be rectangular in section and used with the larger dimension flat to increase stability and avoid "Rolling".

Timber placed against a seen face should be protected by non-staining foam.

Where timber is placed against an unseen face (rear of unit) such protection is not necessary.

2.15.3 Use of Loading Frame

The transport of units using frames attached to the trailer base is necessary because:

- the unit is too wide on the flat to deliver flat loaded.
- the unit cannot be flat stored or loaded/ transported due to structural design constraints
- site requirements dictate that the unit is to be lifted direct from the trailer to the building in the correct attitude
- reduce potential for damage to the precast units.

Frames of various types can be used - A Frames, Double A Frames, Inverted T Frames, U Frames or Lattice Frames (usually low loaders/ panel carriers). Various sizes and types of frames are available in the yard with varying capacities. TC in conjunction with the Yard APM will maintain a list of frames identifying configuration, size and where possible capacity. Each frame will be numbered to ensure traceability.

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When there is a requirement on a project to use frames, the TC in consultation with the Yard APM (or others) will establish the numerical requirement and ensure that sufficient frames of the right type and capacity are available. In so doing the TC should take into account the following:

- Site turnabout times and frame return times.
- Additional frame requirements or frame modifications.
- Capacity of frames. Check with Project Engineer

The TC And the Yard APM should arrange to modify (in consultation with the Design Office) over a period of time existing frames to:-

- Structurally improve the width of the unit bearing area to each frame.
- In conjunction with a above design/ re-design frames such that they can be landed on trailers and are of sufficient width to be stable in themselves on a stationary trailer. (NOT LOADED WITH UNITS).
- Investigate a quick release system for attaching frames to trailer beds via a chain ratchet or similar.
- Arrange to permanently fix to the face and bearing area of each frame protection.

2.15.4 Loading / Unloading from Frames

Frames should be securely fixed to the trailer bed prior to loading any units either by chaining or the use of fabricated clips. Consideration must be given to the stability of the trailer while loading and unloading, the trailer being jacked or supported as necessary.

Frames should be located generally at 1/5th points along the unit. This is not an essential requirement as the units (by implication) are likely to be sufficiently strong in the loading attitude to permit framing at greater spans and regard has to be taken of dissimilar units being loaded on the same frame set up.

Frames must be structurally capable of taking the loads likely to be imposed on them and must not be extended (particularly in height) without reference to the Project Engineer. Particular regard should be given, when locating frames to openings (windows etc.) in the units. Frames must be high enough to support windows etc. at head level under all circumstances.

If it is necessary to remove units from a load in a particular sequence to maintain stability, or it is possible that an agreed sequence may not be adhered, to notes are to be made on the delivery note by the TC in liaison with the Yard APM. Where site require a particular unloading sequence this shall be taken into account when loading.

Prior to unhooking a unit, it must be secured to the frame, if only on a temporary basis, to ensure stability. **No unit is ever left unsupported, even for a second.**

Once units have been loaded prior to dispatch, the unit must be secured to the frame. Each unit must be individually secured to the frame so that the trailer can be unloaded – one panel at a time – without ever leaving a panel unsecured.

Units should be fixed, top and bottom, by means of secured chocks and straps or purpose made metal fixings. Such metal fixings should be attached to the unit via demoulding sockets, site

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fixing-sockets or sockets cast in for the purpose. In normal circumstances units should not be secured via site lifting-sockets.

Consideration should be given to fixing units such that they will not "bounce" or move on the support causing damage at the bearing.

Units should generally be secured individually to frames such that units are hooked to crane prior to disconnecting transport fixings in order that the safe integrity of remaining parts of the load is maintained.

NOTE: All lifting equipment is inspected every 6 months.

For specific procedures refer to Project Method Statement.

3.0 Construction (Erection) Stage

- 3.1 A pre-erection survey is carried out by Techrete's Site Engineer, following the client's confirmation of completion of all proceeding trades and all interfacing structures before erection in any particular section And Pre-Erection Survey Report is returned to the client.
- 3.2 The Site Manager (SM) or his nominee visually examines all units on delivery for defects or transit damage. If there is any damage a Defect Action Sheet is raised (see attachment No. 9 "Form 9.ii.a Defect Action Sheet").
- 3.3 The SM or his nominee will raise Defect Action Sheets and copy to the DAS team, consisting of production, quality, engineering, drawing office, and commercial and also the project team. The addressee will decide on the appropriate course of action and reply to SM and when applicable to client, the response time will depend on the nature and complexity of the issue but in all cases will be endeavoured to answer to avoid any delays on site.
- 3.4 Techrete Ltd or an approved installation sub-contractor, will install the units. For all intents and purposes bearing on health and safety, quality, sub-contract workers act under instruction from Techrete's Site Manager and can be treated (for these purposes) as Techrete labour. The programming of the works, sequence of erection, and the safe method of working will be agreed during the design phase of the works.
- 3.5 The SM, or his nominee, will prepare a check-sheet for each unit or series of units installed. A client representative will record Client approval of all installed units by countersigning the site check-sheet (see attachment No. 10 "First stage Handover; Second stage Handover; Final Stage Handover"). For further information on checking of panels on site, including line and level of elevations, refer to Installation Method Statements (refer to Project Method Statement).
- 3.6 The precast units will be erected within the tolerances designated in the relevant British Standard for Precast Cladding (BS8297) and Client Specification.
- 3.7 For information on application of panel-to-panel sealant, refer to relevant section of Installation Method Statement.

NOTE: Ref.: Project Method Statement – Site Installation.

 Techrete	Techrete Quality Assurance Plan	Rev: 01
	QAP 2520 Cambridge Hall (CBR)	Date: 13/02/2026

3.1 Building Safety Act

1. Overview and Commitment

As a Precast Concrete Contractor, we understand our responsibilities under the Building Safety Act 2022, Building Regulations 2010, and associated legislation to ensure that our work is properly planned, managed, and monitored to achieve full compliance with all relevant requirements.

We operate an integrated management system which provides a formal framework for planning, managing, and monitoring all our building work to ensure compliance with statutory and contractual requirements.

Our Quality Policy includes the following key principles:

- All precast installation works are carried out in accordance with approved drawings, specifications, and current Building Regulations.
- Compliance with the Building Safety Act 2022, including the “dutyholder” responsibilities placed upon contractors and the maintenance of accurate, auditable project information.
- Regular review of procedures and staff training to reflect updates in building safety legislation, Approved Documents, and industry standards.
- Engagement only with competent operatives and subcontractors who can demonstrate relevant experience and qualifications for safety-critical work.

Our management system ensures that all precast installation activities are carried out safely, competently, and in accordance with:

- The approved design and fire strategy.
- Applicable Building Regulations (including structural safety and compartmentation); and
- All relevant Industry standards

We work collaboratively with the Principal Contractor, and where required, the Principal Designer, to maintain the integrity, stability, and fire performance of our works throughout the installation process.

2. Planning Arrangements

Objective: To ensure that all precast installation works are correctly designed, coordinated, and resourced for safe and compliant execution.

- **Design and Technical Review**
 - Review all issued-for-construction drawings, structural design data, lifting plans, and fire compartment layouts before starting work.
 - Verify that all elements (walls, floors, stairs, balconies, columns, beams, etc.) are approved and compatible with site conditions.
 - Confirm that all precast units are CE/UKCA marked and have relevant Declarations of Performance (DoP) and test data.
- **Pre-Installation Co-ordination**
 - Attend pre-start meetings and coordination workshops with the Principal Contractor to review programme, sequencing, access, lifting logistics, and fire compartmentation boundaries.
 - Identify safety-critical details such as:
 - Joint sealing and fire-stopping between panels and floors.
 - Structural connections and grouting.
 - Temporary stability measures and propping arrangements.

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	QAP 2520 Cambridge Hall (CBR)	Date: 13/02/2026

- **Competence and Training**

- All operatives hold valid CSCS cards for precast installation and lifting operations.
- Supervisors and Appointed Persons are suitably trained and competent in accordance with BS EN 13670 (Execution of Concrete Structures) and relevant lifting standards.
- Ongoing toolbox talks and briefings reinforce compliance, safety, and fire integrity requirements.

3. Management During Construction

Objective: To maintain control and oversight of installation activities, ensuring compliance with design intent and regulatory standards.

- **Method Statements and Risk Assessments (RAMS)**

- Detailed RAMS are prepared and reviewed by the Principal Contractor prior to works commencing.
- RAMS address key risks including lifting operations, temporary stability, working at height, fall protection, and fire compartment interfaces.

- **Supervision and Quality Control**

- A competent Site Supervisor oversees all lifting and installation operations.
- Daily inspections ensure that:
 - Panels are installed in the correct sequence and orientation.
 - Connections, dowels, anchors, and grout beds are formed per design.
 - Joint tolerances meet specification.
 - Fire and acoustic seals are applied where required.
- An **Inspection and Test Plan (ITP)** define hold points for critical operations such as:
 - Panel placement.
 - Fixing and connection inspection.
 - Fire stopping and joint sealing.
 - Load transfer verification.

- **Change Control**

- Any proposed deviation from the design, materials, or method of work is escalated to the Principal Contractor for approval through the formal Change Control Procedure.
- No alteration is implemented without written approval.

- **Golden Thread Record Keeping**

- Installation photos, test certificates, delivery notes, and ITP check sheets are captured digitally for inclusion in the project's "Golden Thread of Information" in the format defined by the principal contractor
- All information is traceable to individual precast elements.

4. Monitoring and Verification

Objective: To verify that all precast works are installed to specification and meet compliance requirements.

- **Inspections**

- Joint inspections are conducted with the Principal Contractor and/or Clerk of Works for sign-off at key ITP stages.

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	QAP 2520 Cambridge Hall (CBR)	Date: 13/02/2026

- Fire compartment continuity (e.g., sealed vertical joints between wall panels, junctions at floor slabs) is visually checked and recorded before covering.
- **Material and Product Verification**
 - Precast delivery tickets are checked against approved schedules.
 - Grout, fixings, sealants, and fire-stopping products are verified to ensure compatibility with approved design and test data.
- **Quality Audits**
 - Internal audits are conducted to review adherence to installation procedures and record-keeping.
 - Any non-conformance is recorded, rectified, and closed out with supporting evidence.

5. Procedural Arrangements – Maintaining Fire Compartments

To maintain fire compartment integrity during precast installation, we implement the following procedural controls:

5.1 Pre-Installation Preparation

- Review fire compartment drawings and specifications. Identify critical fire-resisting walls, floors, and barriers.
- Mark fire compartment boundaries clearly on site and communicate them to all relevant personnel.
- Verify that all precast elements intended as fire-resisting components have appropriate fire rating certifications.
- Ensure all fire-stopping materials (sealants, fire collars etc) are third-party certified and available on site.

5.2 Installation Controls

- Install precast panels in strict accordance with the approved sequence to avoid disruption to fire compartments.
- Maintain the continuity of fire-resisting elements at all joints and interfaces. All gaps between panels must be sealed with specified fire-stopping materials immediately after installation.
- For service penetrations through fire compartments, ensure correct fire fire-stopping products are installed and documented.
- Temporary openings or gaps should be closed or protected to maintain compartment integrity until permanent sealing is completed.

5.3 Inspection & Test Plan (ITP)

- Hold points are established for the inspection of joints, fire seals, and fire-stopping before covering or closing up.
- Conduct visual inspections for:
 - Proper sealing of joints and gaps between precast units.
 - Correct installation of fire-stopping materials and collars around penetrations.
 - Absence of unsealed gaps or damage to fire-resisting elements.
- Photographic evidence and signed inspection checklists must be collected and retained.
- Change Control: Any modification to openings, penetrations, or product substitutions is escalated for formal review before work continues.

5.4 Non-Conformance Management

- Any damage to fire-resisting panels, unsealed gaps, or missing fire-stopping must be reported immediately.

 Techrete	Techrete Quality Assurance Plan	Rev: 01
	QAP 2520 Cambridge Hall (CBR)	Date: 13/02/2026

- Raise a Non-Conformance Report (NCR) and ensure remedial works are carried out promptly to restore fire compartment integrity.
- Re-inspection required after corrective action to verify compliance.

6. Handover and Post-Completion

Objective: To provide full documentation demonstrating that precast works have been completed in accordance with approved design and statutory requirements.

- **As-Built Documentation**
 - Submit as-built drawings, lifting/installation records, ITP check sheets, product certifications, and test data to the Principal Contractor.
 - Provide evidence of fire compartment integrity where applicable.
- **Regulation Compliance**
- Ensure that all fire-critical elements and fire-stopping details associated with the precast structure are documented
- **Continuous Improvement**
 - Lessons learned are reviewed with the Principal Contractor and design team.
 - Training and procedures are updated based on findings, Building Safety Regulator updates, or changes in standards.

7. Evidence and Documentation Templates

We maintain standard template documents to support these processes, including:

- Precast Installation Inspection and Test Plan (ITP)
- Fire Compartment Inspection Checklist
- Change Control Form
- Product and Material Compliance Log
- Site Meeting & Toolbox Talk Record Sheet
- Weekly Compliance Audit Form

These templates ensure that quality and safety checks are documented consistently and can be evidenced to Building Control or the Building Safety Regulator.

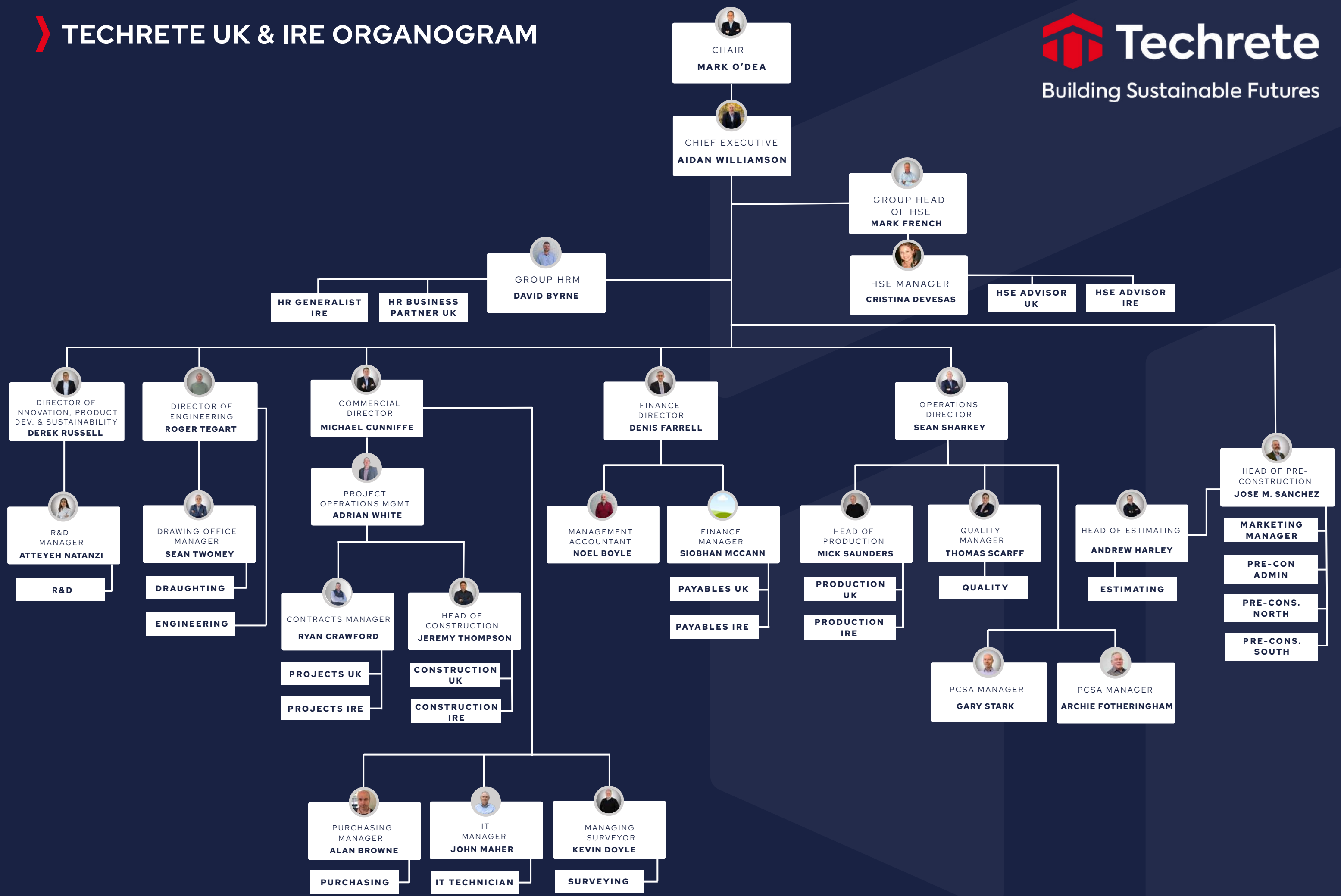
8. Workforce and Subcontractor Engagement

We hold regular coordination meetings, toolbox talks, and safety briefings that specifically reference:

- Building Safety Act 2022 dutyholder roles
- Building Regulations compliance responsibilities
- Fire compartment protection and inspection
- Safe lifting and temporary stability of precast units

Minutes of these meetings are recorded and retained in the project file, with attendance sheets signed by all participants to demonstrate engagement and awareness.

TECHRETE UK & IRE ORGANOGRAM



Quality Policy

Techrete specialises in the design, manufacture and installation of Architectural Precast Concrete products. By their nature, our activities have particular requirements for Experience, Expertise, Capability, Reliability and Quality.

The prime commitment and objective of Techrete management team is to deliver projects in a manner that conforms to the specified requirements, needs and expectations of Techrete Clients.

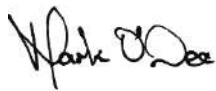
We will do this whilst working continually to improve our systems through monitoring and reviewing performance as follows:

1. Reduction of internal and external non-conformances.
2. Corrective action implementation and continuous improvement.
3. Work standardisation through lessons learned and good practice.
4. Continually strive to increase quality awareness of all employees.

In order to achieve this objective, Techrete will maintain and continually improve an efficient and effective Quality Assurance System which is now integrated with H&S, Environmental & Sustainability and Energy Management System (TIMS = Techrete Integrated Management System), planned and developed in conjunction with all personnel.

Techrete Quality Assurance System is based upon the requirements of: ISO 9001:2015 "Quality Management Systems"

Techrete Quality Manual, and the systems outlined therein, describes how the Quality Assurance System is designed to ensure that all specified requirements are recognised and that a consistent and uniform control of these requirements is adequately maintained and comply with relevant EN regulations or CE mark. The Quality Manual also defines how effective control is established.



Mark O'Dea,
Chairperson

5th June 2025





Building Safety Act Policy

Techrete specialises in the design, manufacture and installation of Architectural Precast Concrete products. The purpose of this policy is to ensure Techrete is in full compliance with the Building Safety Act 2022 and its associated regulations.

This policy sets out how Techrete will manage building safety risks in relation to our operations, particularly in the manufacture and installation of Architectural Precast Cladding panels used in higher-risk buildings.

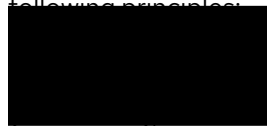
This policy applies to all Techrete employees, subcontractors, and consultants involved in the design, manufacturing, and installation of Architectural Precast Cladding panels buildings within the scope of the Building Safety Act 2022.

The Building Safety Act 2022 introduces a new regulatory framework aimed at improving building safety, particularly in high-rise residential buildings (HRBs) that are at least 18 metres in height or have at least seven storeys and contain two or more residential units.

Key elements include:

- Dutyholder responsibilities during design and construction
- The "Golden Thread" of information
- The role of the Building Safety Regulator
- Gateways 1, 2, and 3
- Registration of high-risk buildings
- Mandatory occurrence reporting
- Competence of organisations and individuals

Techrete is committed to fulfilling their duties under the Building Safety Act and will implement the following principles:



Techrete's duties under the Construction (Design and Management) Regulations 2015 as amended by the Act.

Techrete will maintain clear, accurate, up-to-date, and accessible records (the "Golden Thread"), including:

- Design specifications
- Manufacturing records
- Installation records (Handovers)
- Product datasheets
- Health and safety documentation
- As Built drawings

This information will be provided in digital format to relevant stakeholders, including the Principal Contractor.



Techrete will ensure that all staff involved in projects subject to the Building Safety Act:

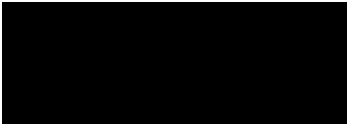
- Have demonstrable competence relevant to meet role specific competence standards and the appropriate skills, knowledge, experience and behaviours (SKEB) to fulfill their duties.
- Receive training on the Building Safety Act and its implications
- Undertake regular CPD and internal training, including on legislative updates and safety best practices.
- Maintain up-to-date records of qualifications, training, and project experience.
- All subcontractors and involved in projects governed by the Act must:
- Demonstrate competence and compliance with relevant legislation
- Maintain traceable records of all materials and inspections
- Cooperate fully with Techrete Quality Management System and safety procedures.

Techrete staff must report any safety-related incidents, near misses, or risks that could impact building safety to the Principal Contractor and the Building Safety Regulator, in line with mandatory occurrence reporting requirements.

Techrete will support the client and design team in meeting the Gateway requirements:

- **Gateway 1 (Planning):** Provide input to demonstrate fire and structural safety at the planning stage.
- **Gateway 2 (Pre-Construction):** Ensure that Techrete's designs and methods meet safety regulations before construction begins.
- **Gateway 3 (Completion):** Confirming Techrete's actual build aligns with the approved design and meets all regulations for the issue of a completion certificate.

Techrete is committed to promoting the ethos of safety first, prioritising the safety of buildings, their residents and users in every decision and action. We continually strive to contribute to the continual improvement of our sector, maintaining and expanding our technical awareness and operating our business in a respectful and ethical way.


Mark O'Dea

Chairperson

14.10.2025





NSAI

Certificate of Registration of Quality Management System to I.S. EN ISO 9001:2015

Techrete Ireland Ltd

Stephenstown Industrial Estate
Balbriggan
Co. Dublin
Ireland
K32 W665

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

The design, manufacture and site installation of architectural precast concrete cladding panels and glass fibre reinforced concrete cladding panels



Approved by:
Stewart Hickey
Head - Business Excellence, NSAI



Registration Number: 19.1264HQ
Original Registration: 27 January 1993
Last amended on: 22 August 2024
Valid from: 22 August 2024
Remains valid to: 23 July 2027

This certificate remains valid on condition that the Approved Quality Management System is maintained in an adequate and efficacious manner. NSAI is a partner of IQNet – the international certification network (www.iqnet-certification.com)

Partner of:



All valid certifications are listed on NSAI's website – www.nsai.ie. The continued validity of this certificate may be verified under "Certified Company Search"



NSAI (National Standards Authority of Ireland), 1 Swift Square, Northwood, Santry, Dublin 9, Ireland T +353 1 807 3800 E: info@nsai.ie www.nsai.ie

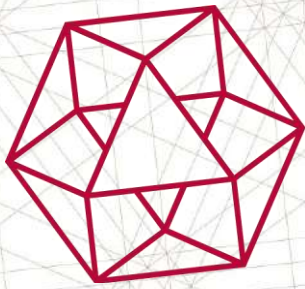


NSAI

Annex to Certificate No. 19.1264HQ

Additional facilities covered by this certificate:

Registration No.	Address	Scope
19.1264/01	Techrete (UK) Ltd Station Road Scawby Brigg North Linc United Kingdom DN20 9DT	As per central site
19.1264/02	Techrete (UK) Ltd Fieldspar Close Warren Parkway Enderby Leicester United Kingdom LE19 4SD	As per central site



NSAI

Certificate of Registration of Quality Management System to I.S. EN ISO 9001:2015

Techrete (UK) Ltd

Station Road
Scawby
Brigg
North Linc
United Kingdom
DN20 9DT

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

The manufacture and site installation of architectural precast concrete and glass fibre reinforced concrete cladding panels.



Approved by:
Stewart Hickey
Head - Business Excellence, NSAI



Registration Number: 19.1264/01
Original Registration: 27 January 1993
Last amended on: 22 August 2024
Valid from: 22 August 2024
Remains valid to: 23 July 2027

This certificate remains valid on condition that the Approved Quality Management System is maintained in an adequate and efficacious manner. NSAI is a partner of IQNet – the international certification network (www.iqnet-certification.com)
This certificate is issued as part of multi-site certificate No. 19.1264HQ

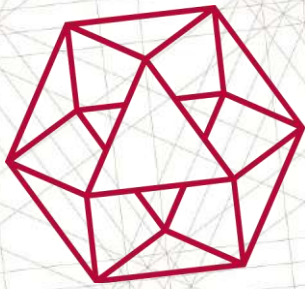
Partner of:



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NSAI

Certificate of Registration of Quality Management System to I.S. EN ISO 9001:2015

Techrete (UK) Ltd

Fieldspar Close
Warren Parkway
Enderby
Leicester
United Kingdom
LE19 4SD

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

The design, manufacture and site installation of architectural precast concrete cladding panels and glass fibre reinforced concrete cladding panels



Approved by:
Stewart Hickey
Head - Business Excellence, NSAI



Registration Number: 19.1264/02
Original Registration: 27 January 1993
Last amended on: 22 August 2024
Valid from: 22 August 2024
Remains valid to: 23 July 2027

This certificate remains valid on condition that the Approved Quality Management System is maintained in an adequate and efficacious manner. NSAI is a partner of IQNet – the international certification network (www.iqnet-certification.com)
This certificate is issued as part of multi-site certificate No. 19.1264HQ

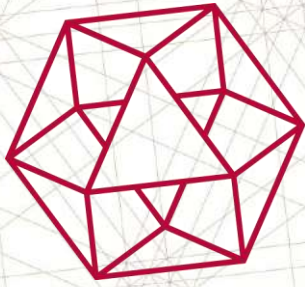
Partner of:



All valid certifications are listed on NSAI's website – www.nsai.ie. The continued validity of this certificate may be verified under "Certified Company Search"



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NSAI

Certificate of Registration of Occupational Health and Safety Management System to I.S. ISO 45001:2018

Techrete Ireland Ltd

Stephenstown Industrial Park
Balbriggan
Co. Dublin
Ireland
K32 W665

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

The design, manufacture and site installation of architectural precast concrete cladding panels and glass fibre reinforced concrete cladding panels
SSIP Approved:IE Designer



Approved by:
Stewart Hickey
Head - Business Excellence, NSAI



Registration Number: 45.0045HQ
Original Registration: 1 June 2007
Last amended on: 22 August 2024
Valid from: 22 August 2024
Remains valid to: 23 July 2027

*This certificate remains valid on condition that the Approved Occupational Health & Safety Management System is maintained in an adequate and efficacious manner.
NSAI is a partner of IQNet – the international certification network (www.iqnet-certification.com)*

Partner of:



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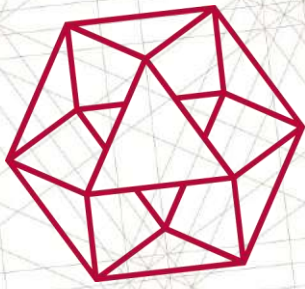


NSAI

Annex to Certificate No. 45.0045HQ

Additional facilities covered by this certificate:

Registration No.	Address	Scope
45.0045/01	Techrete (UK) Ltd Station Road Scawby Brigg North Lincolnshire United Kingdom DN20 9DT	As per central site
45.0045/02	Techrete (UK) Ltd Fieldspar Close Warren Parkway Enderby Leicester United Kingdom LE19 4SD	As per central site



NSAI

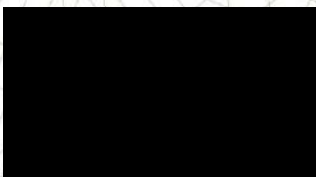
Certificate of Registration of Environmental Management System to I.S. EN ISO 14001:2015

Techrete Ireland Ltd

Stephenstown Industrial Park
Balbriggan
Co. Dublin
Ireland

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

The design, manufacture and site installation of architectural precast concrete cladding panels and glass fibre reinforced concrete cladding panels



Approved by:
Stewart Hickey
Head - Business Excellence, NSAI



Registration Number: 14.0449HQ
Original Registration: 11 February 2009
Last amended on: 1 March 2024
Valid from: 1 March 2024
Remains valid to: 10 February 2027

This certificate remains valid on condition that the Approved Environmental Management System is maintained in an adequate and efficacious manner. NSAI is a partner of IQNet – the international certification network (www.iqnet-certification.com)

Partner of:



All valid certifications are listed on NSAI's website – www.nsai.ie. The continued validity of this certificate may be verified under "Certified Company Search"



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NSAI

Annex to Certificate No. 14.0449HQ

Additional facilities covered by this certificate:

Registration No.	Address	Scope
14.0449/01	Techrete (UK) Ltd Station Road Scawby Brigg North Linc United Kingdom DN20 9DT	As per central site
14.0449/02	Techrete (UK) Ltd Fieldspar Close, Warren Parkway Enderby Leicester United Kingdom LE19 4SD	As per central site

4. Form W001_Unit Tracing Label

UNIT TRACING LABEL  TECHRETE		Comments
Reinforcement Cage Project Name Unit Ref. Cast No. GO APM Signature Date		
Mould Assembly Drawing No. Drawing Rev. Team No. By Carpenter By GO Mould Setup First Off (MM) Mould Dimension Mock - Joints		
Stone / Brick Check Stone / Brick Installed Joints Spacings		
Stone / Brick Check by QC Inspector PIN Number & Size PIN Depth Signed By		
Mould Assembly and Cage Check by General Operative Mould Surface Sealant Mould Oil / Retarder Cage Fit & Clearance Loose Rebar Placed Polythene		
Pre-cast Check By Carpenter By GO Lifting Sockets Demoulding Sockets Halfen Channels Stainless Components Corbel Dowels Rebates Mould Features Brackets / Plates Reinforcement Cover Extent of Finish noted		
Proceed to Cast APM Signature Date		

	UNIT TRACING SHEET				Rev:	5
	Form No. 001 to QP004 (Control of Non-conforming Product)				Rev date:	16/08/2013

Project Name:	Contract No.:
Drawing No.:	Unit Reference:
Casting Hall/Team:	Date Cast:

Section 1; Pre-casting Inspection** (Tick or fill in as appropriate, where not applicable write N/A)

Mould Surface.		Mould oil/retarder.		Dimensions (L, H, T)	
Brick Layout.		Voids.		Sealant	
Stone Layout.		Joints.		Pins	
Reinforcement (diam., spacing, quantity)		Cast-in Fixings.		Weep tubes/conduits.	
Reinforcement cover (front, rear, sides)		Recess (drainage tail)		Rebates.	

Cast-in Fixings.

Type:	Qty	Type:	Qty

Approval signature*: _____ Date: _____

Section 2; Post-Cast Inspection (Tick or fill in as appropriate, where not applicable write N/A)

Length.		Width.		Depth.	
Bow.		Twist.		Square.	
Curvature.		Cast-in Fixings.		Reference No.	
Bricks.		Stones.		Joints.	
Cast-in FIXINOX Hanger: check colour code, and with pin (GO, NO-GO)		Cover to steel - one panel/job/day (front, rear, sides)		Weep tubes/conduits. (clean)	
UTL completed:	Yes		No		

Other: _____

Non Conformance Report raised: _____ Report No.: _____

Approval signature*: _____ Date: _____

Section 3; Post-Finishing Inspection (Tick or fill in as appropriate, where not applicable write N/A)

Finish	Front		Top		Left side			Colour.		Surface traitement (e.g. water repellent/anti-graffiti)	
	Rear		Bottom		Right side			Sealant		Other.	

Approval signature*: _____ Date: _____

Section 4; Pre-Delivery Inspection (Tick or fill in as appropriate, where not applicable write N/A)

Appearance.		Insulation.		Non-conformance addressed.	
-------------	--	-------------	--	----------------------------	--

Approval for despatch signature*: _____ Date: _____

Section 5; Distribution
 UTS is stored in Quality Control Department (available on request)

* signature (not initials) of authorized person ** if not applicable cross out whole section

NON CONFORMANCE REPORT (NCR)

LOCATION:

PROJECT NUMBER:

PROJECT NAME:

NCR #:

DATE:

Drawing Ref No./Rev:

UNIT REF. NO:

NCR Category	Description of Defect	Tick	Team
H 1	Cracking In Handling	☐	
H 2	Broken Corner Or Arris	☐	
H 3	Unit Bowed Or Twisted	☐	
H 4	Damaged Stone - Replace	☐	
H 5	Chipped Damaged Stone Repair	☐	
H 6	Misalignment Of Stone Repair	☐	
C 7	Contamination On Face (Wires, Spacers)	☐	
C 8	Pour Marks Flowlines On Returns	☐	
C 9	HoneyCombing, Poor Compaction	☐	
C 10	Hairline Cracking/Shrinkage	☐	
C 11	Poor/Incorrect Finish To Back Of Unit	☐	
C 12	Over/Underfill Of Units	☐	
C 13	Exposed Low Cover To Rebar	☐	
C 14	Omitted/Incorrect Socket Locations	☐	
C 15	Clean Out Dowel Formers	☐	
M 16	Poor Line Of Unit, Mould Deterioration	☐	
M 17	Return Edge Rough	☐	
M 18	Mock Joints Out Of Position	☐	
M 19	Incorrect Detail	☐	
M 20	Grout Loss	☐	
M 21	Outside Of Dimensional Tolerance	☐	
M 22	Staining/Blemish Due To Mould	☐	
F 23	Polish Damage	☐	
F 24	Over/Under Finish Of Unit (AE, GB etc)	☐	
F 25	Colour Variations	☐	
F 26	Insulation Incorrect/Omitted	☐	
F 27	Mastic/Pointing Incorrect, Omitted	☐	
O 28	Others	☐	
D 29	Post-Casting Alteration (Design)	☐	
DI	Design IRL	☐	
DU	Design UK	☐	
EI	Erection IRL	☐	
EU	Erection UK	☐	
MC	Main Contractor	☐	
AT	Architect	☐	
TT	Transport	☐	
OR	Other	☐	

Unit Name	Date Cast

Details of Defect
Raised by: Date Raised:
Proposed Action
Proposed by: Date by:
Closure Data
Closed by: Closed Date

REMEDIAL ACTION

Carried out by: _____ No. of Hours: _____ Date: _____

(forward a copy to Technical Director / Quality Manager)

REMAKE REQUIRED _____ Approved by: _____ Date: _____

Circulation:

Photocopy / Fax / E-mail

QC - Eng - QC - APM Finishing - QC

Photocopy / Fax / E-mail

Project E-Mail / Production Manager / Quality Assurance Manager

 Techrete		DEFECT ACTION SHEET (DAS)				Rev.:	6
		Construction Manual 9.ii. a				Date:	18/3/20
BASIC INFO	Project Name	Project N ^o	DAS N ^o	DATE	Unit No/Panel No.	Location:	

ALL DEFECTS CAUSED BY TECHRETE (FACTORY, DESIGN)	DEFECT - CATEGORY No.		Select	Details of defect (picture, sketch):	
	H	1	Cracking in handling		
		2	Broken corner or arris		
		3	Unit bowed or twisted		
		4	Damaged stone – replace		
		5	Chipped / damaged stone repair		
		6	Misalignment of stone/lapping		
	C	7	Contamination on face (wire, spacers)		
		8	Pour marks, flowlines on returns		
		9	Honeycombing / poor compaction		
		10	Hairline cracking /shrinkage		
		11	Poor / incorrect finish to back of unit		
		12	Over/underfill of units		
		13	Exposed, low cover to rebar		
		14	Omitted / incorrect socket locations		
		15	Clean out dowel formers		
	M	16	Poor line of unit, mould deterioration		
		17	Return edge rough		
		18	Mock joints out of position		
		19	Incorrect detail		
		20	Grout loss		
		21	Outside of dimensional tolerance		
		22	Staining / blemish due to mould		
	F	23	Polishing damage		
		24	Over / under finish of unit (AE, GB etc.)		
		25	Colour variations		
		26	Insulation incorrect / omitted		
		27	Mastic / pointing incorrect, omitted		
	D	29	design (drawing office)		
				Occurance Date:	
				Issued by:	
				REMEDIAL ACTION:	

ALL DEFECTS CAUSED BY CLIENT/SITE/ARCHITECT/ CONTRACTOR/ERECTOR	DEFECT - CATEGORY No.		Select		
	S	30	Structure setting out wrong		
		31	lack of halfen (s)		
		32	clash with structure		
		33	floor levels clash		
		34	lack of /or wrong dowel pocket		
		35	access denied or restricted		
		36	crane issues		
		37	erection damage (describe)		
		38	architect clashes/issues (describe)		
		39	main contractor (describe)		
		40	supplier/sub-contractor (describe)		
		41	transport/delivery (describe)		
		42	Weather (describe)		
	S	43	Other (describe)		
				Date:	
				Proposed by:	

SOURCE of DEFECT	DESIGN			ARCHITECT		Remake required:	
	MANUFACTURE			MAIN CONTRACTOR			
	TRANSPORT			SUPPLIER		Approved by:	
	ERRECTOR			SUB-CONTRACTOR		Date:	

SUMMARY	REMARKS:		RESOURCES USED		EXPIRY DATE
			Man	Hours	
			Equipment:		
	click @ ATTACHMENT				
	NOTE: DAS to be e-mailed within same day as the issue occurred		Material:		
e-mail address: DAS@techrete.ie					

Area Handover:

Techrete Ltd. Signed: _____ Date Handed Over: _____		Contractor/Client: Signed: _____ Date Approved: _____	
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PROJECT REF:

XXXX

PROJECT TITLE:

Job Name

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REASON FOR ISSUE

PRELIMINARY

INFORMATION

APPROVAL

CONSTRUCTION

DRAWINGS

[illegible]

	INSPECTION AND TEST PLAN	Rev: 01
	Project no. 2520	Date: 13/02/2026

TRADE CONTRACTOR		Techrete IRL		PACKAGE		Cambridge Halls.	
LOCATION		Cambridge Halls, Manchester University, Manchester M15 6BX.		PACKAGE NUMBER		2520	
SCOPE OF WORKS:		Design, manufacture, supply and erect recon precast cladding panels.					
Specification[s] Ref.:						ORGANISATION CODINGS TE - Techrete CL - Client SU - Supplier Others - 3 rd Party approval	
Rev	Amendment	Originator	Date	Approved by	Date	INSPECTION CODINGS H Hold points F First time only I* Inspection W* Witness of test SA Submit for approval SI Submit for information only SR Submit for records A Approval *R Random inspections *100 100% inspection *10 10% Inspection *20 20% inspection Etc. Where * is control code	
01	Original issue	Thomas Scarff	13/02/2026	Archie Fotheringham	13/02/2026	 If applicable; when is not required type "N/A" in column "Item"	

	INSPECTION AND TEST PLAN							Rev: 01			
	Project no. 2520							Date: 13/02/2026			

Item	Operation /Activity	Specification	Inspection Method	By Whom	Freq/ Date	Acceptance Criteria	Verifying Document/s		Inspection C O D E S				Remarks
							Description	Held By	TE	CL	SU	Others	
1	Unit Samples	As agreed between the parties.	Visual	TE	Initially – once	Architect / Client Approval	Samples sign off	TE and CL	F	SA			
2	Benchmark Panels	As agreed between the parties.	Visual – Reference QAP section 2.7	TE	Initially – once	Architect / Client Approval	First off production units approval.	TE and CL	F	SA			
3	Mould Inspection a) dimensions b) surface	Techrete Integrated Management System; WS003 Mouldage procedure	Dimensional and Visual	Techrete	100%	WS003 Mouldage procedure	UTL (Unit Tracing Label) and UTS (Unit Tracing Sheet) Quality Assurance Plan	TE	I100				
4	Reinforcement (bars)	Techrete Integrated Management System; WS002 Reinforcement procedure	Dimensional check	Techrete	100%	WS002 Reinforcement in respect of BS 8666:2020	UTL (Unit Tracing Label) and UTS (Unit Tracing Sheet) Quality Assurance Plan	TE	I100				
5	Pre-cast and post-cast inspection	Techrete Integrated Management System	Dimensional and visual check	Techrete	100%	Manufactures tolerances WS100	UTS (Unit Tracing Sheet) <i>** Unit tracing sheets are internal documents and are not distributed outside the company.</i>	TE	I100				

	INSPECTION AND TEST PLAN							Rev: 01			
	Project no. 2520							Date: 13/02/2026			

Item	Operation /Activity	Specification	Inspection Method	By Whom	Freq/ Date	Acceptance Criteria	Verifying Document/s		Inspection C O D E S				Remarks
							Description	Held By	TE	CL	SU	Others	
6	Concrete cube test	EN206	Destructive	Techrete	As per EN 206	Concrete min 28-day strength = 50N/mm2	Concrete cube test Sheet. Cube results can be submitted on request. All cube results are submitted as part of the O&M manual.	TE CL	IR				
7	Final/loading inspection	Techrete Integrated Management System	Visual and dimensional (post NCR insp.)	Techrete	100%	Manufactures tolerances WS100	UTS (Unit Tracing Sheet) and LCS (Loading Check Sheet)	TE	I100				
8	Pre-commencement Survey	Techrete Integrated Management System; 1.3.1 Construction Procedures Manual, section 5	Dimensional check	Techrete	Pre-start erection started	1.3.1 Construction Procedures Manual, section 5	Survey report	TE and CL	IF	SA			
9	Site inspection at receipt	Techrete Integrated Management System; 1.3.1 Construction Procedures Manual	Visual	Techrete	100%	Manufactures tolerances WS100,	DDS (Daily Diary Sheet) and DAS (Defect Action Sheet)	TE	I100	SI			
10	Structural completion - First Handover sheets (all panels installed, secured (torque checked and marked off) and grouted and checked)	Techrete Integrated Management System; 1.3.1 Construction Procedures Manual, section 10	Visual	Techrete	At zone completion according to DPP	1.3.1 Construction Procedures Manual, section 10	Handover sheet –see Quality Assurance Plan	TE and CL	IF I100	SA			

	INSPECTION AND TEST PLAN		Rev: 01
	Project no. 2520		Date: 13/02/2026

Item	Operation /Activity	Specification	Inspection Method	By Whom	Freq/ Date	Acceptance Criteria	Verifying Document/s		Inspection C O D E S				Remarks
							Description	Held By	TE	CL	SU	Others	
11	Functional completion - Second Handover sheet (all mastic seals checked)	Techrete Integrated Management System; 1.3.1 Construction Procedures Manual, section 10	Visual	Techrete	At zone completion	1.3.1 Construction Procedures Manual, section 10	Handover sheet –see Quality Assurance Plan	TE and CL	IF	SA			
12	Zone completion - Final handover sheet, As built dimensional survey. (zone complete, snag-free and checked)	Techrete Integrated Management System; 1.3.1 Construction Procedures Manual, section 10	Visual	Techrete	At zone completion according to DPP	1.3.1 Construction Procedures Manual, section 10	Handover sheet –see Quality Assurance Plan	TE and CL	IF 1100	SA			
13	O&M Manual - Internal Techrete's	Techrete Integrated Management System; O&M Manual	Client's approval	Techrete	Once – TBD	Client's approval	O&M Manual – Techrete template	TE and CL	IF	SR			