

AF&F

Façade Quality Plan

325 Deansgate, Manchester

Ref: DEA-CUD-XX-QP-0001-C02



Revision:

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2. Introduction:

The purpose of this document is to set out the quality control procedure for the selection, design, manufacture, delivery and installation of the Facade systems to 325 Deansgate, Manchester.

The Project Quality Plan:

- Summarizes the main aspects of the project.
- Clarifies the processes in the execution phase.
- Describes the Quality Assurance processes and Quality Control activities.
- Describes how quality issues are identified, reported and dealt with.

Abbreviations:

Abbreviation	Description
DR	Document Register
HSE	Health, Safety and Environmental Manager
I&TP	Inspection & Test Plan
LCD	Lead Concept Designer
LD	Logistic Department
MP	Material Purchaser
NCR	Non-Conformity Report
PQP	Project Quality Plan
PM	Project Manager
DM	Design Manager
LM	Logistic Manager
QM	Quality Manager
PMan	Production Manager
PDM	Procurement Department Manager
QCR	Quality Control Record
QM	Quality Manager
RFI	Request for Information
SI&TP	Site Inspection & Test Plan
SM	Site Manager
SQCR	Site Quality Control Record
TE	Test Engineer
CM	Construction Manager

3. Design Concept

The 325 Deansgate project consists of a 21-storey high hotel building near Deansgate railway station in Manchester. The primary structure is steel with metal deck concrete slabs. The facade involves punched-in windows and curtain wall façade. The opaque façades consist of terracotta and brick slip rainscreen panels.

4. Scope And Purpose

The Installation of the following: Façade Types

- Visual Mock-up EWS 101
- Visual Mock-up EWS 102
- Visual Mock-up EWS 103
- External Façade SFS and External weather board
- EWS 101 (Windows & Terracotta System)
- EWS 102 (Windows & Brick slip System)
- EWS 103 (Zig zag Terracotta System Rainscreen)
- EWS 201 (CW Stick System Reynaers Glazed)
- EWS 203 (CW Stick System Reynaers Glazed)
- EWS 300 (Soffit hanged panels System)



5. Roles And Responsibility

The design and construction team members all have important roles and responsibilities in managing the quality of the façade materials for the 325 Deansgate. The key team members in the Design Team that drive the façade delivery include SimpsonHaugh as architects, ACMS as main contractor, and Fortis Facades as façade engineer. Please see below the full list of roles and responsibility.

Client: ASK Deansgate.

Consultants:

Lead Concept Designer and Architects: SimponHaugh

Façade Consultant: Fortis Facade

Structural Engineers: EOC

Access and Maintenance Consultant: Wintech

MEP Consultant: Atelier Ten

Contractors / Sub Contractors:

Construction Management and Main Contractor: Assured CMS

Facade Contractor: AF&F

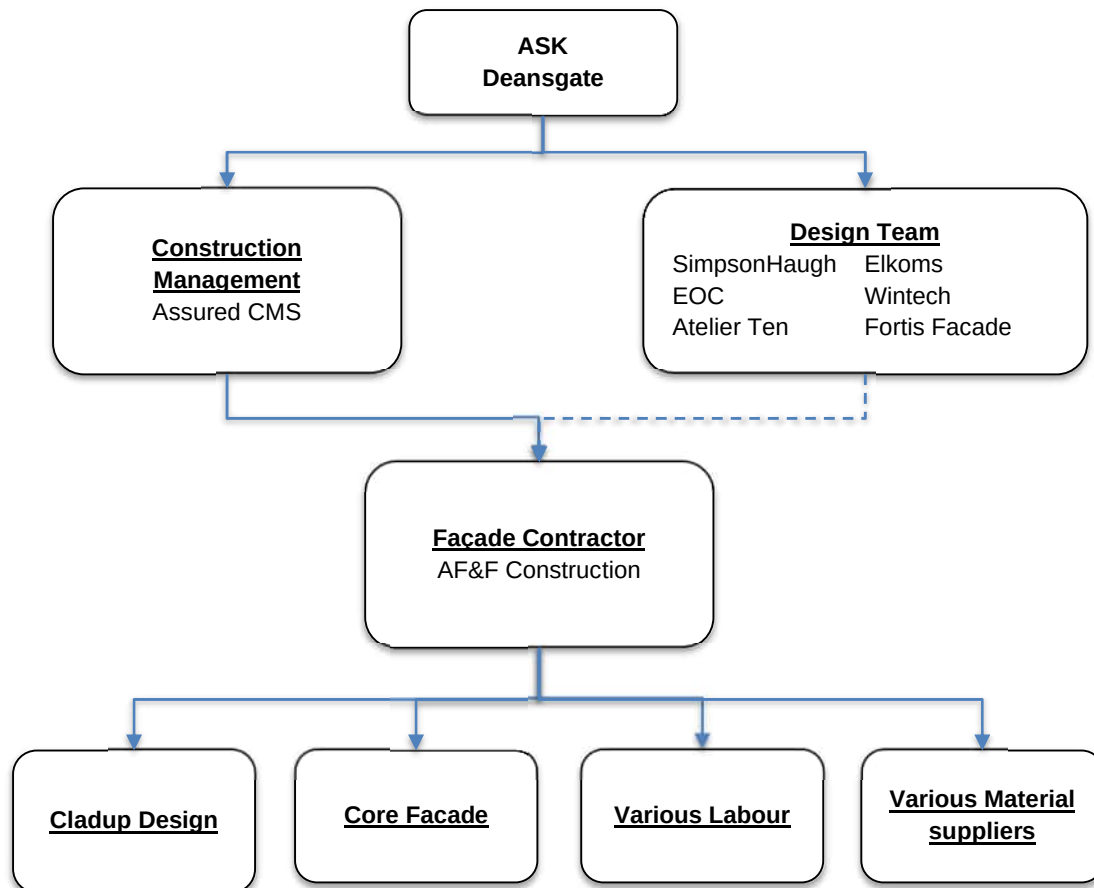
Project Manager: Assured CMS

Project Design Manager: Assured CMS

Project Logistic Manager: Assured CMS

Installation Manager: CORE Facades

Façade Designer: Cladup Design



SimpsonHaugh:

SimpsonHaugh, in collaboration with other consultants, are responsible for production of the facade design intent from RIBA stages 1-4. Detailed design of the facade is undertaken by the specialist facade subcontractor (see information below). As architect and lead designer SH will review and comment on the subcontractor detailed design alongside input from the facade engineer. They will coordinate the design of construction elements. SH will make visits to site to review the general progress of the construction works, and to determine as far as is reasonably practicable, that the quality of materials and workmanship is consistent with the architectural drawings and specification.

Fortis Façade, Façade Consultants:

Fortis Facades are employed as façade engineers/consultants. Fortis Façade review AF&F/CUD design drawings and subcontractor's QA procedures, verify compliance with specification and good standards. Carry out reasonable audits in the subcontractors manufacturing facilities and on site, to check their QA procedures. Fortis provide PI insurance to appropriate level.

AF&F Construction:

AF&F is employed as the façade contractor to Deliver the façade project. As part of this quality management system AF&F will undertake a thorough inspection/snag of each element of works throughout the various stages of production and installation.

Core Façade:

Core Façade have been employed by AF&F for the project management for the building envelope package. This includes assistance in scrutiny and selection of supply chain. Core Façade will be managing Façade Installers and Façade labour during the façade package delivery.

Cladup Design:

Cladup Design have been employed for the Stage 4 & 5 detailed design co-ordination, façade manufacturing drawings and installation drawings. Cladup verify design by carrying out calculations for structural and thermal performance.

RGB Façade:

RGB façade assist with the procurement of the façade cladding elements. This includes planning supply of material and delivery to site. This includes SFS from Ash & Lacy, Brick slip from Ibstock, terracotta framework from Floorspan and Terracotta panels from Tiles International. Please refer to Table in Section 6.1

6. Sub-Contractor Selection and Management

The selection of the right sub-contractors is key to achieving the required quality. The key to any successful project is not only dependent on the selection of the materials specification, whilst considering the sourcing and availability of materials in the current market but also the selection of suitable contractors to complete the works. The design solution relies on the use of terracotta, bricks and glazed elements to achieve the required aesthetic.

The main contractor, ACMS have appointed the façade contractor, AF&F to deliver the design, procure and install the façade package.

AF&F operate an approved supply chain data base. All contractors working on the project have been assessed and attained approved status on their data base of approved supply chain partners. All contractors on their supply chain are assessed and go through an approval process at maximum two-year intervals. They also monitor and score the performance of all contractors with whom they place orders as well as undertaking regular credit checks at intervals not exceeding 3 months prior to the placing of any order. Contractors undertaking works have their performance reviewed at maximum 6 monthly intervals or at the end of each work package completed. This performance review is then inputted on to their performance management data base which collates scores across their projects. This performance information is then available to their staff to review prior to placing future orders with those contractors. This process also allows AF&F to manage their supply chain and address any issues of poor performance ensuring they maintain a consistent high standard of performance for the benefit of the project and ultimately the communities within which we work.

There are several basic factors to identify suitable sub-contractors, including:

1. Financial strength to sustain the required cash flow.
2. Quality Management
3. Standard of workmanship
4. Adequacy of experienced staff
5. Number of relevant projects completed.
6. Adherence to programme
7. Sufficiency of resource
8. Provision of Safety information and safety performance history.
9. Past relationship
10. Current order book / workload
11. Reputation / references
12. Price

6.1. Material List Supply Chain:

Please see below list of Products & Suppliers for façade systems that have been identified by AF&F as potential supply chain after rigorous checks:

No	Category	Facade Type	Material description	Supplier
1	System materials	EWS 101 & 102	SFS	RGB - A&L
2	System materials	EWS 101 & 102	Windows	Reynaers
3	System materials	EWS 101	Rainscreen Terracotta	RGB - Tiles Int
4	System materials	EWS 101	Rainscreen Terracotta Brackets & Rails	RGB - Floorspan
5	System materials	EWS 102	Brick Slips and Substructure	RGB – Ibstock RGB - A&L

6	System materials	EWS 103	Rainscreen Terracotta Zigzag	RGB - Tiles Int
7	Steel	EWS 101 & 103	Unitised Terracotta Unitised Frame	Euro lifting
8	System materials	EWS 201	Stick System L4 to L21	Reynaers
9	System materials	EWS 202	Stick System Level Podium Ground Floor	Reynaers
10	System materials	EWS 04	EWS 301: Soffit Panels	RGB - Genius
11	System materials	EWS 04	EWS 302: Copings	Euro lifting
12	Aluminium	General	Window Soffit & Sill	Euro lifting
13	Insulation	General	Mineral Insulation DuoSlab	Rockwool
14	Firestops	General	Fire Barriers	FSI
15	Mild Steel	General	Brackets + Fixing channels	Euro lifting
16	Membranes	General	Windows Perimeter Seal	Obex
17	Sheathing Board	General	Siniat Board	RGB - Siniat
18	Membranes	General	Breather Membrane where applicable	Proctor Wraptight
19	Fixings	General	Fixings	VJT / A&L
20	Sealant	General	Sealant	VJT
21	Accessories	General	Tapes, Rods, Foams etc.	VJT
22	Aluminium	General	Copings - Presswork	Euro lifting
23	Mild Steel	General	Coping - Brackets	Euro lifting

7. Interface Management

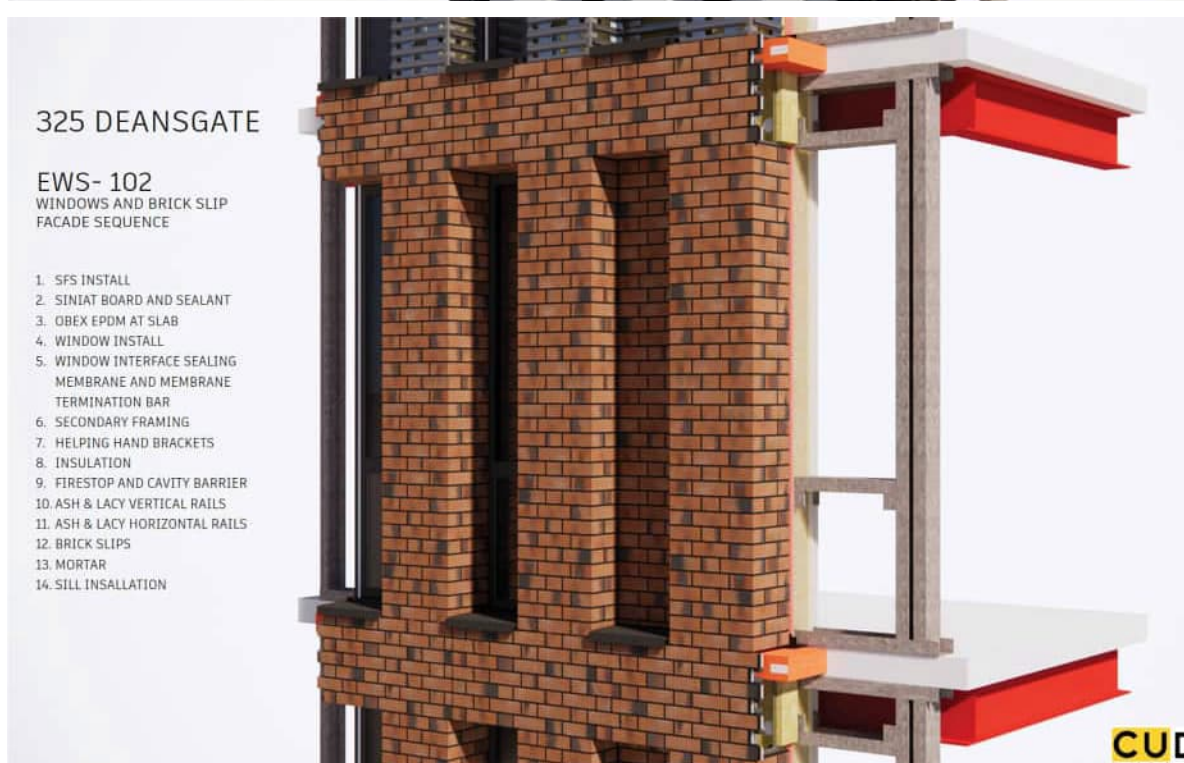
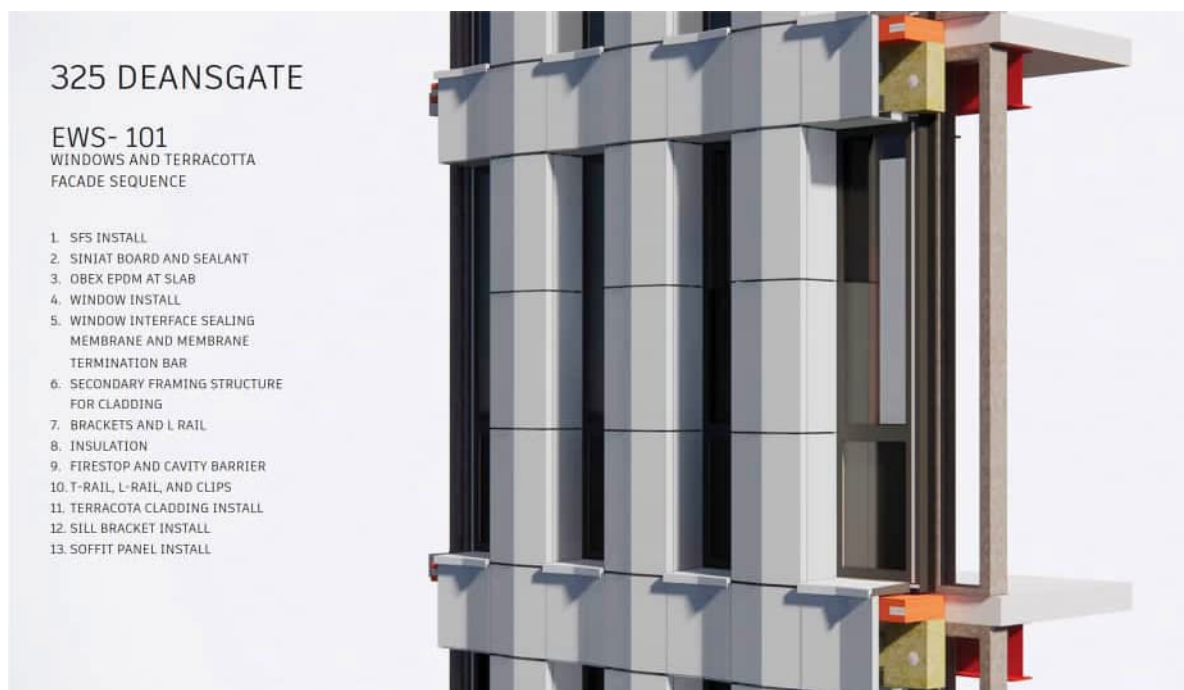
The main interfaces on the façade are the Terracotta wall panels, Brick slip system, Stick Curtainwalling and the punched in windows. Typical bay studies / details are shown in Appendix A.

To ensure the interface of these components remains consistent it is of paramount importance that façade typology is manufactured and installed to the correct dimensional accuracy and remains within the permitted tolerances for both panel-to-panel joints and panel to curtain walling structural openings.

The workmanship of terracotta panels & brickslips during the production process will comply with specification. The dimensional accuracy of the elements installation will be controlled and checked by Core Façade Installers and AF&F.

The management of the sequence of installation is necessary to manage interface joints and settingout. Visual sequencing guides have been developed to assist the site team in understand interfaces of façade types.

The sequence would be as follows for the terracotta and Bricks:



ACMS will provide the primary setting out grid lines and datums whilst the Core Façade/AF&F Installation team will be responsible for the dimensional accuracy of the bricks and terracotta panel installation. AF&F will then independently check the as installed position of the bricks and terracotta panel before the installation is able to progress to the next level ensuring line and level.

A sample Mock-up of these interface has been mocked up on-site compound area adjacent to the interfacing viaduct.



8. Quality Control Documentation

The ACMS Quality Control Documentation is organized into three tiers:

- Project Quality Plan (PQP) and its appendices.
- Quality Control Records
- Project-specific Risk Log and Records.

8.1. Project Quality Plan

The Project Quality Plan (PQP) consists of following key documents:

The Process Control Matrix (PCM) displays the quality-centric tasks within the execution processes and the roles involved, detailed in [Appendix 4](#).

The Inspection & Test Plans (I&TP) lists the necessary Quality Control Activities by the supplier, AF&F, and/or its subcontractors during the design, procurement, production and installation stages for key materials, as well as the assembly of façade panels.

Each I&TP specifies the responsibilities, frequency, standards or references, and the documentation required, as exemplified in [Appendix 6](#).

The Inspection & Test Plan on site details the main control tasks to be conducted by AF&F/Core Facade and its installation subcontractor during the onsite phase. Developed in collaboration with off-site and on-site teams, it covers installation stages up to the final handover to the client. It incorporates all quality risks for specific materials and critical interfaces to ensure adherence to project specifications.

8.2. Quality Control Records

Quality Control Record (QCR) is available to all staff through a web-based platform on **Fieldwire**. Quality Control Records are managed on the Quality management system. This platform describes the sequence, interaction, responsibilities, and content of all activities.

Checksheets are created for all principal materials and their activities as a checklist and record of all critical characteristics to verify quality. Refer to [Appendix 9](#) & [Appendix 10](#) for sample layouts.

8.3. Project Risks & Records

Projects risks are identified and submitted under RAMS. Task specific risks are submitted prior to commencing works. All inspection reports and control records are maintained in the project folder structure or in binders by designated personnel within the Record Management System. Although these records are not distributed as soft or hard copies, they are available for review. These

9. Project Execution Process

The project execution is structured into several distinct phases and controlled by Project manager (ACMS):

- Project Management and Planning
- Design & Engineering
- Procurement
- Production
- Installation
- Handover

9.1. Project Management and Planning

The approach known as Risk-Focused Project Management is adopted to concentrate on significant risks and opportunities, enhancing both efficiency and effectiveness. An active risk log is maintained and frequently reviewed to ensure critical issues are addressed. Decisions arising from the risk discussions are incorporated into the project strategy, which is documented in the continually updated Project Plan.

The initial duty of AF&F is to review the project requirements and develop a project strategy. Each team member develops and aligns the strategy for their project development phase including scope, planning, budget, occupation, tools/equipment, risks and Quality, Health & Safety and Environmental implication.

The Project Manager (ACMS) has the principal responsibility for the coordination, scheduling, and approval of key Quality milestones throughout the project lifecycle:

- Visual mock-up
- Benchmark of production
- Installation benchmark
- Site testing

Working in conjunction with the Project Team, the Project Quality Manager will develop Material Inspection & Test Plans (I&TPs), taking into account the quality risks associated with specific materials. These Inspection & Test Plans are refined throughout the procurement phase to reflect the qualifications and expertise of the chosen suppliers.

To efficiently manage and structure the project execution, the project is segmented into different lots. This segmentation is based on the technical specifics of the façade panels, material management, production efficiency, and the sequence of installation. Each lot is meticulously planned to encompass:

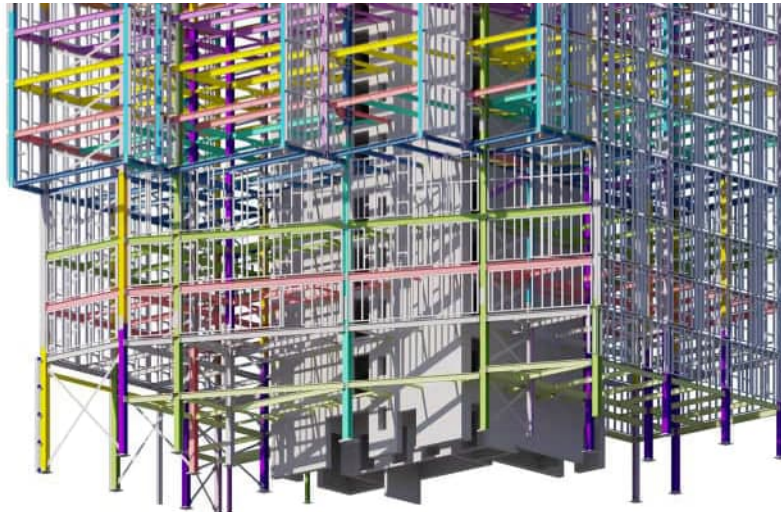
- Design and approval processes.
- Procurement and delivery of materials
- Production and packaging
- Installation and final handover

The project delivery programme is regularly reviewed and adjusted during Project Team meetings. It is the responsibility of the Main Contractor to coordinate the programmes between all individual parties.

9.2. Design

The Project Design Manager (ACMS), supported by the Façade Designers (CUD), will catalogue all design and engineering deliverables, including drawings and documents for the project. A budget will be established based on these deliverables, along with a timeline for development and scheduling for occupancy. All related design and engineering tasks are incorporated into the project schedule.

Lead Concept Designer (SH), the Design Manager oversees the definition of project materials and the approval and issuance of samples.



For the effective coordination of facade design with trade-to-trade interfaces, particularly concerning temporary works and the steel contractor, a structured approach is essential.

The facade engineering team (CUD) will collaborate closely with the steel contractor and other interfacing trades to align the design elements with the structural requirements and site-specific conditions. This coordination is critical to accommodate the physical and functional interfaces between the facade system and the building's structural framework.



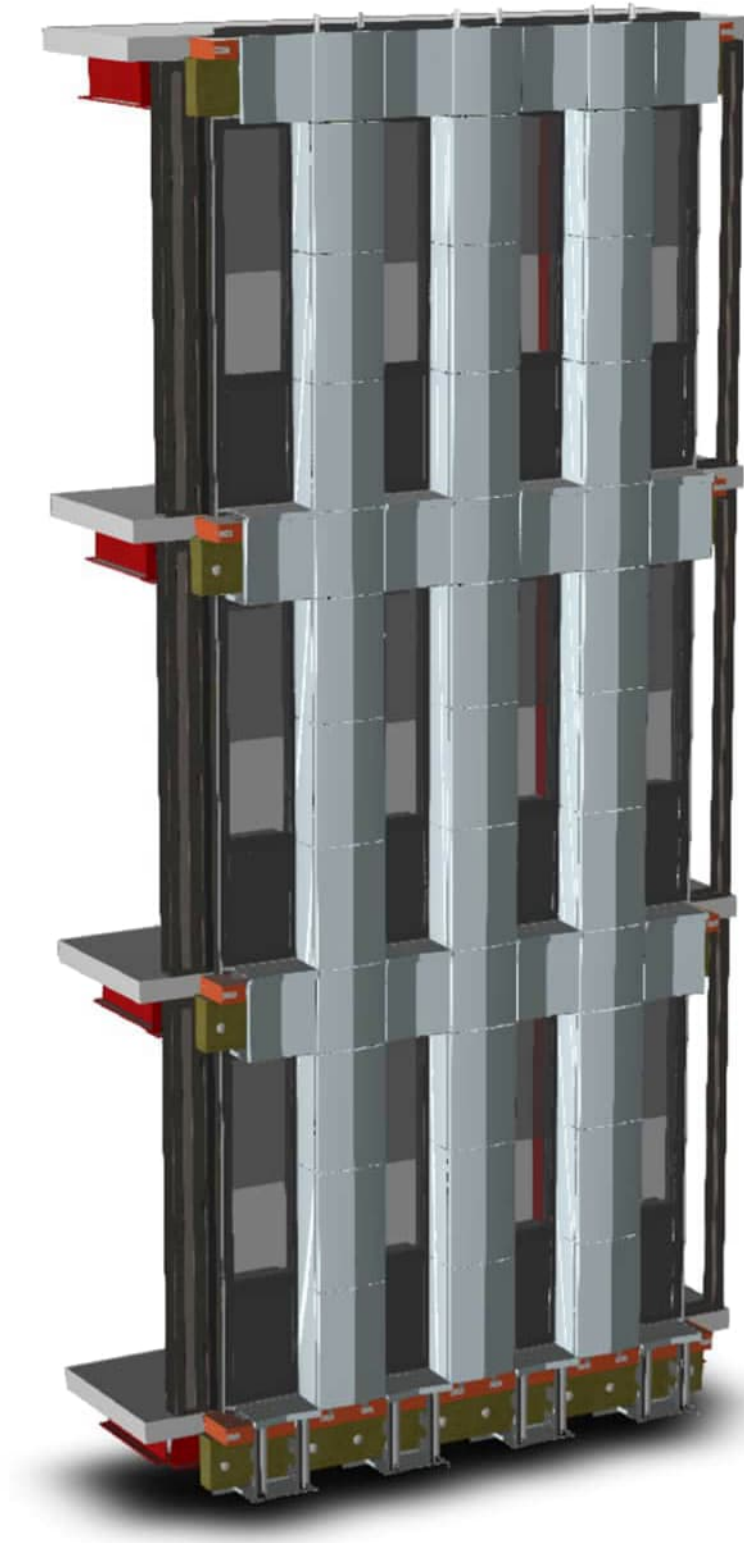
Figure 1 - SFS Model (Left) overlaid on Subcontractor Steel BIM model.

Key activities include:

- Regular coordination meetings to discuss design progress, challenges, and resolutions.
- Sharing of updated design documents, models, and drawings among all trades involved.
- Implementation of a revision control system to ensure all parties are working with the most current design information.

By maintaining open communication and regular collaboration, the project can anticipate and mitigate potential design conflicts, thus ensuring a streamlined installation process and maintaining the integrity of the overall building envelope. This approach not only enhances the efficiency of the project but also contributes to the long-term durability and performance of the facade system. Furthermore, Digital mock-ups are built to test buildability of systems prior to manufacturing and installation.

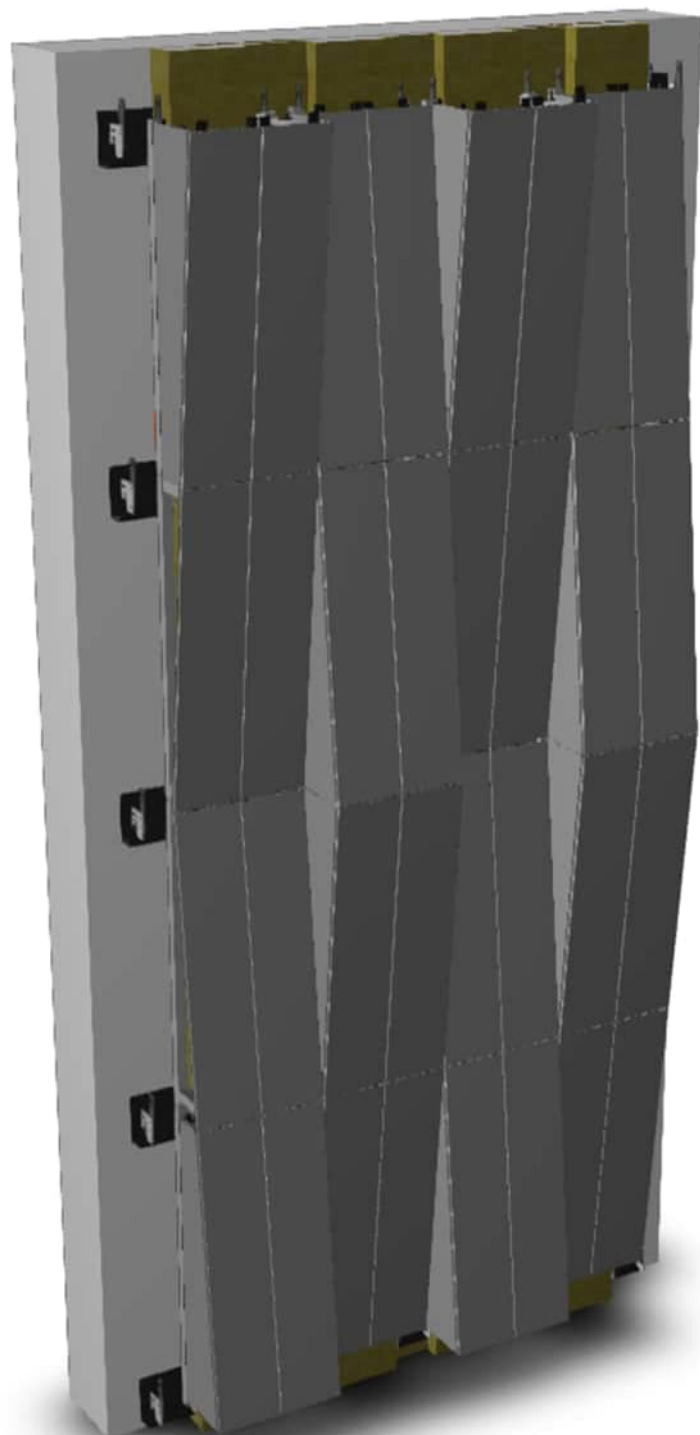
Digital Mock-up: EWS101 Terracotta



Digital Mock-up: EWS102 Brick



Digital Mock-up: EWS103 ZigZag Grey Terracotta



Digital Mock-up: EWS201 Curtainwall



9.2.1. Document Management System

The procedure for document management is part of the Cladup Design Document Management System.

The identification and submission of project-related documents for the client's approval are formalised and processed by the Document Register (DR). **Appendix 03**. The Document Register for Façade scope is managed by CUD.

All drawings, samples and reports submitted to the client and answers received with a status, are recorded in the progressive updated DR. The DR is shared with the project team on email notifications with any updates to documents by CUD.

9.2.2. Document approvals

During the project execution, the following approvals shall be obtained in line with the applicable contractual agreements:

- Approval of drawings and documents.
- Approval of test results.
- Approval of material samples, visual mock-up, Production and Installation Benchmark.

All drawings and documents will have a title block, indicating the status following the contractual agreements, for example:

- 'For information'
- 'For approval' P01, P02, P0X
- 'For construction' C01, C02, C0X
- 'As build' AB01

The client has provided a document management platform (**Sharepoint**), on which the drawings and documents will be uploaded. It is the client's responsibility to coordinate the approval process of all drawings and documents and to efficiently return the comments of various parties within the contractually agreed period of **10 working days** via the above-mentioned document management platform.

The contractual approving authority will indicate an approval status on each returned document. The returned documents will be registered in the progressively updated DR. The return status can be:

A-status: Approved. The document is released for construction.

B-status: Approved with comments. AF&F can proceed with the subsequent phases of the design process, after incorporation of the relevant comments as long as these are unambiguous. The document is to be reissued for construction after incorporation of the relevant comments.

C-status: Rejected. The document is to be revised and re-issued.

On each drawing and document, the current approval status (A/B/C/-) will be shown. All first issues of design drawings and documents will be "for approval". When a drawing or document is returned with A- or B- status, the next issue is "for construction". When a drawing or document is returned with C-status, the next issue is "for approval". During project close out the design drawings and documents will be updated and "as-built" issued.

9.2.3. Design Modification

Design changes may arise for various reasons. Updated drawings and documents are submitted to the client for approval. The Project Design Manager (ACMS) handles the evaluation and dissemination of information related to the impacts of design changes to other project team members, ensuring that previous versions of documents are replaced with updated revisions.

The Project Manager oversees the financial and scheduling implications of all changes and secures client approval before any variation is implemented.

9.3. Procurement

The project team, in collaboration with the Procurement Manager (CORE Facades), formulates the procurement strategy for the project. Procurement timelines are aligned with production and installation schedules, ensuring timely material and service delivery.

The Project Design Manager (ACMS) and Project Logistics Manager (ASMS) gather necessary data for inquiries, while material purchasers forward quotations requests to chosen suppliers.

Before engaging a new supplier, the Core Facade conducts an assessment. Supplier evaluation and Quality Audit is conducted. Decisions regarding supplier approval for the Approved Supplier List are made by the Quality Manager and Procurement Department Manager based on audit outcomes.

Supplier quotes are assessed based on:

- Price comparison and scheduling terms.
- Technical expertise and capabilities of the supplier.
- Audit results and supplier evaluations.
- Adherence to the Supplier Quality Management System.

These evaluations are recorded in the "Project Price List," with the Project Manager, Purchaser, & Procurement Department Manager within ACMS and finalizing supplier selection.

A 'Supplier kick-off' meeting is scheduled post-contract to ensure both AF&F and the supplier teams understand all project requirements and agreements.

9.4. Production

Core Façade co-ordinates activities by panel type, considering necessary resources, material availability, and scheduling needs. These production activities are then scheduled within the project timetable.

Together with the supply chain, AF&F establishes Production Inspection and Test Plans (I&TP), taking into account specific quality risks associated with the façade design and insights from the Mock-up assembly.

A Quality Control Record (QCR) is created for each type of façade to monitor and document critical assembly processes. During assembly, each panel is tracked through its Quality Control Record, which lists checks to be conducted at various stages. A panel is only cleared for shipment if it passes all interim inspections and the final quality assessment by the production foreman.

Audits are conducted and local quality systems may be adopted if they meet the required standards.

9.5. Product Identification and Traceability

All products from suppliers are tagged with labels detailing the supplier, job reference, item number, and quantity. Materials used in production bear labels that include job references and item details.

Each manufactured panel is marked with a label indicating job reference, floor, pack number, item number, and a unique identification number. These item references are used on installation drawings for identifying panels during construction.

9.6. Handling, Storage, Packaging, Preservation and Delivery

Stored products, either awaiting shipment or recently received, are kept in designated storage areas. Items susceptible to weather damage are stored under cover. These requirements are clarified with the manufacturers.

Semi-finished products are stored in specific areas to prevent damage, while finished goods are packed in pallets, steel crates, or wooden boxes designed to endure the stresses of transport and handling.

The material delivery is tracked on **Fieldwire application** where the site managers (Core Façade Installers) change the status once the material is delivered.

9.7. Installation

Installation processes on-site, including the receipt of goods, acceptance of structures, all installation tasks, and handover to the client are carried out by Core Facades. Installation activities are planned according to the Project Programme.

The Site Manager, in cooperation with the Project Manager, divides the job into phases based on production schedules, building characteristics, and contractual obligations. Detailed information about the installation phase is provided in separate submissions of site method statements (RAMS).

9.8. Area Acceptance

Before an area is accepted for installation, the site team conducts a visual compliance inspection of the primary structure, in collaboration with the Main Contractor. The overall condition of the area, including health and safety aspects, is assessed. If discrepancies are identified, the site team coordinates with the Main Contractor to address necessary corrections.

Following acceptance of the floor slab, AF&F verifies the dimensions, positions, and tolerances of builderswork and steel structures against as-built drawings, performing necessary adjustments before installation begins.

9.9. Incoming Goods

All materials delivered to the site are scrutinized not only against delivery notes but also through a visual inspection to assess integrity and compliance with specific material requirements. The outcomes of these inspections are documented in the site quality control records (SI&TP) on delivery sheets.

In the event of damage, a Non-Conformance Report (NCR) is issued and escalated to the relevant project team member.

Materials are protected and stored in a manner that prevents damage or degradation.

9.10. Health and Safety Management

Before commencement of any work, Risk Assessments and Method Statements (RAMS) are prepared detailing the tasks to be undertaken and the measures to ensure safety. These include control measures and proper lifting techniques (e.g., Lift Plans), as well as COSHH assessments. RAMS are drafted by subcontractors performing the work and reviewed by both AF&F and ACMS before approval.

Documents are standardized to ensure consistency in presentation, including details like the name of the first aider and the person in charge. Copies of these documents are maintained in the site office and are available for inspection by the contractor upon request. In certain cases, these documents are accompanied by additional information such as lift plans.

9.11. Installation Control

During installation, the site team conducts verifications to ensure adherence to quality standards and contractual specifications. Initial training on the principal cladding types is provided to operatives, which may include on-site instructions, written procedures, annotated drawings, or direct discussions with designers.

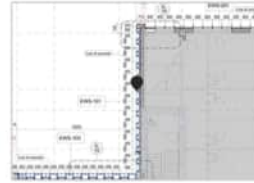
Additional training in relevant skills is provided as needed, such as the use of MEWPs, CSCS, CPCS, training/accreditation, or other relevant qualifications.

Management of installation details is facilitated through the distribution of site installation drawings and subsequent quality checks. Design and assessment of fixings are completed during the design stage and are included in the drawing approvals and design validation processes.

The installation procedures, checks to be performed, and relevant documentation are outlined in the Site Inspection & Test Plan (refer to appendix). The results of site inspections are recorded in the installation checklists, which are compiled into the handover pack as installation progresses. This pack is submitted to the Main Contractor once an area is completed, inspected, and protective measures are implemented, in accordance with the handover process. Protection is applied to prevent damage during the period between completion of installation and the final handover to the client.

Site Quality Control Record procedures are integrated online into **Fieldwire**.

● #37 - Level 4-North West-SFS

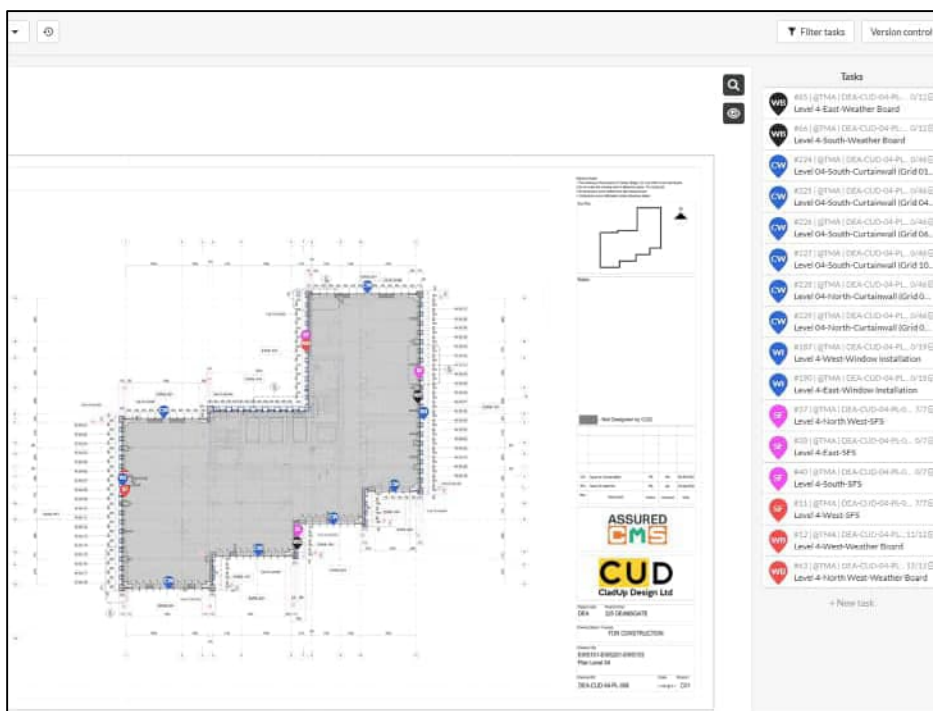


CS-01 SFS Installation #1 | Draft | CS-01-L04

- ✓ Concrete Checks Complete (@TMA - 17-12-2024)
- ✓ Grid Line Setout (@TMA - 17-12-2024)
- ✓ Install base track (@TMA - 17-12-2024)
- ✓ Install Head track (@TMA - 17-12-2024)
- ✓ Install studs in position (@TMA - 17-12-2024)
- ✓ Install Head track noggings (@TMA - 17-12-2024)
- ✓ Create Window openings (@TMA - 17-12-2024)



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10. Inspection & Handover

In line with contractual obligations, a handover of the façade or façade sections is conducted with the client.

The detailed handover methodology is described in the ITP (refer to appendix). A pre-handover inspection is conducted jointly with the Main Contractor, during which any issues are identified, and protective measures are applied. This is followed by the snagging phase and another detailed inspection with the Main Contractor.

At the handover to the client and preceding trades, handover sheets are produced to confirm that all work meets the required standards. Consolidated comments regarding quality of workmanship will be reviewed against the agreed tolerances and rectified if the outside of agreed tolerances.

The façade elements will be rectified, and a defect free handover would be the goal.

The site ITP document references the quality documents to be used, which are compiled at the time of handover to demonstrate compliance with processes and standards. Once all issues have been addressed, the Site Manager and the Project Manager perform the final handover to the Main Contractor.

10.1. Inspections and Testing

Refer attached Inspection and Test Plan Appendix 6 for information on inspection procedures and project intervals at which they occur.

A Full-size Visual Mock-up for agreed façade elements was built and presented to the architects and the planners. To ensure that the quality of design, specifications and workmanship, the façade elements are replicated to the main project from the approved samples. The mock-up could remain in place as a façade benchmark until the main building façade construction has progressed to a point whereby all key features are installed, and an inspection has been carried out to confirm the quality is sufficient. Tolerances in colour, joint gap and visual variances must be agreed within parties in relation to manufacturing and installation limitations.

Site Hose Testing locations to be agreed. Site Hose Testing will be carried out in accordance with Section 9 of CWCT Standard Test Methods for Building Envelopes. Refer to 203016-EOC-SP-001-03-Draft 3 performance specification. Clause 6.3.1. Area to be agreed.

Laboratory Impact test to be agreed. Will be carried out in accordance with TN75 and TN76. Refer to 203016-EOC-SP-001-03-Draft 3 performance specification.

Laboratory Fragility test to be agreed. Will be carried out in accordance with TN66 and TN67 (or TN 98). Refer to 203016-EOC-SP-001-03-Draft 3 performance specification.

10.2. Inspection at suppliers

According to the quality control activities defined in the Inspection & Test Plan (I&TP), Core Facade performs quality inspections of the materials still at the suppliers' premises, to verify the conformity of the materials and the supplier processes. Please refer to [Appendix 9](#) for Production checklist and quality assurance.

Components not subject to I&TPs are components such as fixings, standard accessories, adhesives, tapes, sealants, glues, etc. These items are checked using the quality certificates provided by the suppliers.

10.3. Inspection of Incoming Goods

Quality inspections are performed on incoming materials as defined in the Inspection & Test Plan (I&TP). The outcomes of these inspections are documented in the Quality Control Records (QCRs).

10.4. Production Review

The quality of production workmanship is evaluated through 'Benchmark,' which are sample panels produced using standard manufacturing processes. Following internal approval, these Benchmark are presented to the client for acceptance based on predefined inspection criteria outlined in Appendix 4. Decisions regarding which panel types require a Benchmark are made by the project team.

10.5. Installation Review

For assessing installation quality, a 'Benchmark' section of the façade is installed ahead of the general installation sequence. This Benchmark is reviewed internally and, upon approval, is showcased to the client for acceptance under the agreed inspection criteria stated in Appendix 4. The project team collaborates with the client to designate the area of the façade that will serve as the Benchmark.

Damages to the façade elements by other contractors will be recorded after handover for the main contractor to raise repair instructions.

Any deviation from approved design due to site changes will be reported for acceptance or rectified. The approved changes will be recorded in As Built Drawings.

11. Non-conformity Management

AF&F has established protocols for handling non-conformities in products and processes. All staff levels are empowered to identify and report non-conformities. Significant issues involve the Project Manager. Non-conforming items are isolated and labelled pending the resolution of the issue and closure of the Non-Conformity Report. Initial site Non-Conformity Reports (NCRs) are created in Fieldwire.

12. Service

Upon project completion, as-built drawings and the Operations and Maintenance Manual are delivered to the client. This manual provides essential guidelines for the proper operation and maintenance of the façade, ensuring compliance with maintenance and cleaning specifications to uphold façade performance. The responsibility for adhering to these maintenance guidelines rests with the client.

13. Appendix List

#	Doc. Ref.	Title
1	Appendix 1	Architect's Bay Studies
2	Appendix 2	Façade Specification
3	Appendix 3	Document Issue Schedule
4	Appendix 4	Process Control Matrix
5	Appendix 5	Inspection viewing criteria
6	Appendix 6	Example Inspection & Test Plans
7	Appendix 7	Example Quality Control Records
8	Appendix 8	Supplier Certificate ISO 9001
9	Appendix 9	Manufacturing Check sheets
10	Appendix 10	Installation Check sheets
11	Appendix 11	Project Forms
12	Appendix 12	Terracotta Repair and Maintenance

Appendix 1: Bay Studies

MATERIAL KEY

- EWS-101 • Windows and GRC cladding (Light grey)
- EWS-102 • Windows and GRC cladding (Red to match manchester brick)
- EWS-103 • GRC cladding (Dark Grey)
- EWS-201 • Aluminium curtain wall (tower)
- EWS-202 • Aluminium curtain wall (podium)
- EWS-301 • Aluminium soffit panels

- Clear glazing
- 50% Frit Glazing
- 100% Frit Glazing
- Movement joint

Drawing to be read in conjunction with:

- G251 External Wall Setting Out Drawings
- G251 Window Schedule
- G221 Core Drawings
- N320 Fire Strategy Drawings
- G322 External Doors Drawings

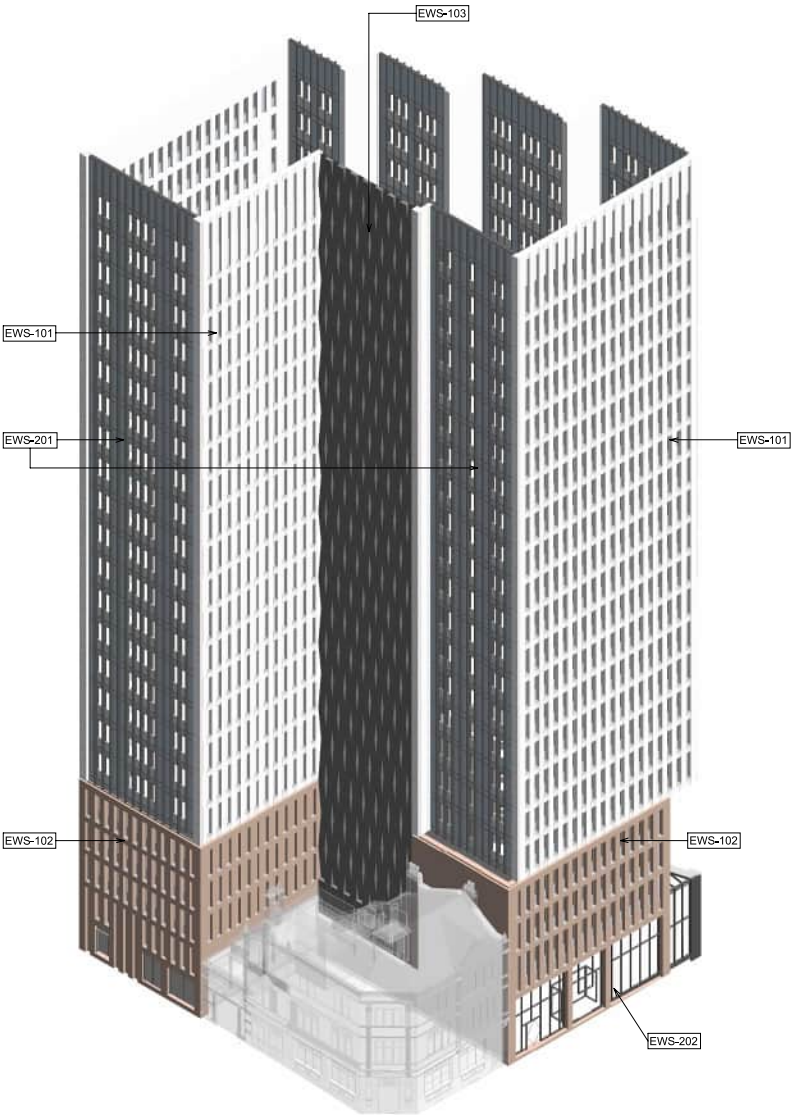
Drawing to be read in conjunction with SHP visual specification and Façade Engineers performance specification.

Indicative details to illustrate visual design intent only. All to Façade Contractor's design.

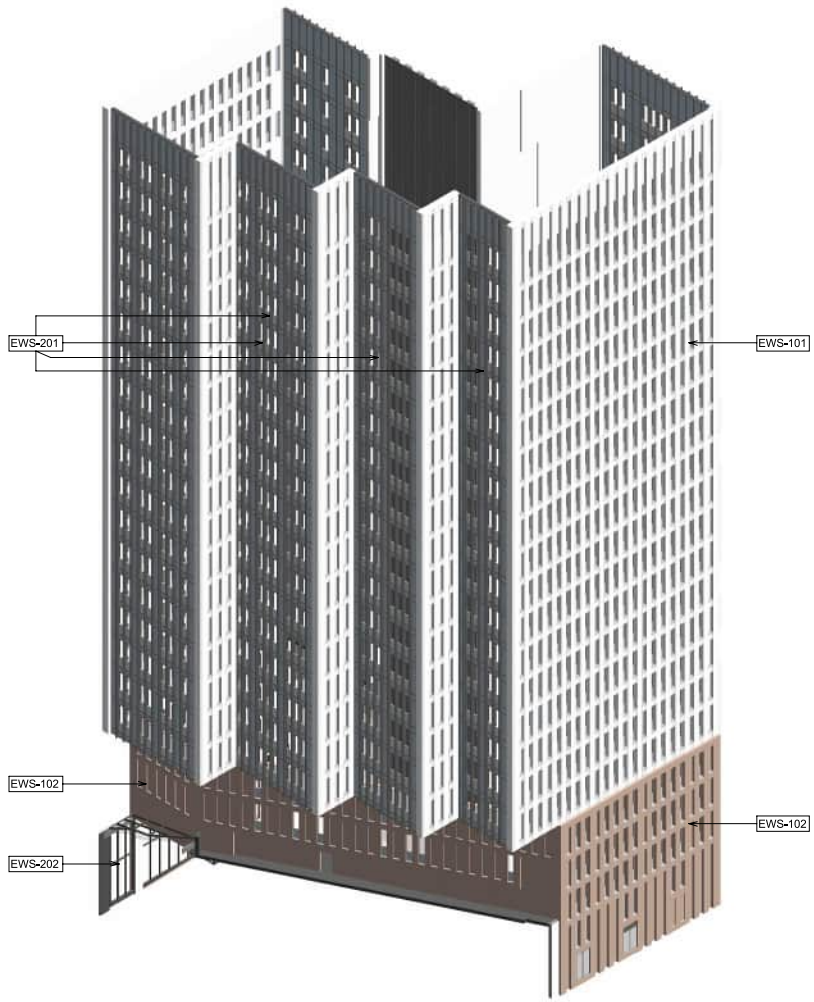
All details to be co-ordinated with adjacent trades, SE and M+E details.

The Façade Contractor is responsible for meeting the specified performance criteria.

All samples to be agreed as per SHP sample schedule



1 3D Keyplan 01



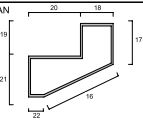
2 3d Keyplan 02

This drawing is copyright
Do not scale off dimensions.

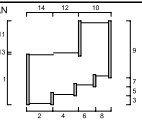
All dimensions to be checked on
site by contractor.

Contractor to report any dimensional
discrepancies, errors or omissions
prior to commencing on site.

00-03 KEYPLAN



04-21 KEYPLAN



NORTH



Rev	Date	Description
001	2023-05-20	First Issue
002	2023-12-20	Updated to show brick slip and terracotta

Project Title
325 Deansgate
Manchester

Status
Preliminary

Drawing Title
Site Wide
External Walls
3d Axonometric Keyplan

Project No
10446

Scale

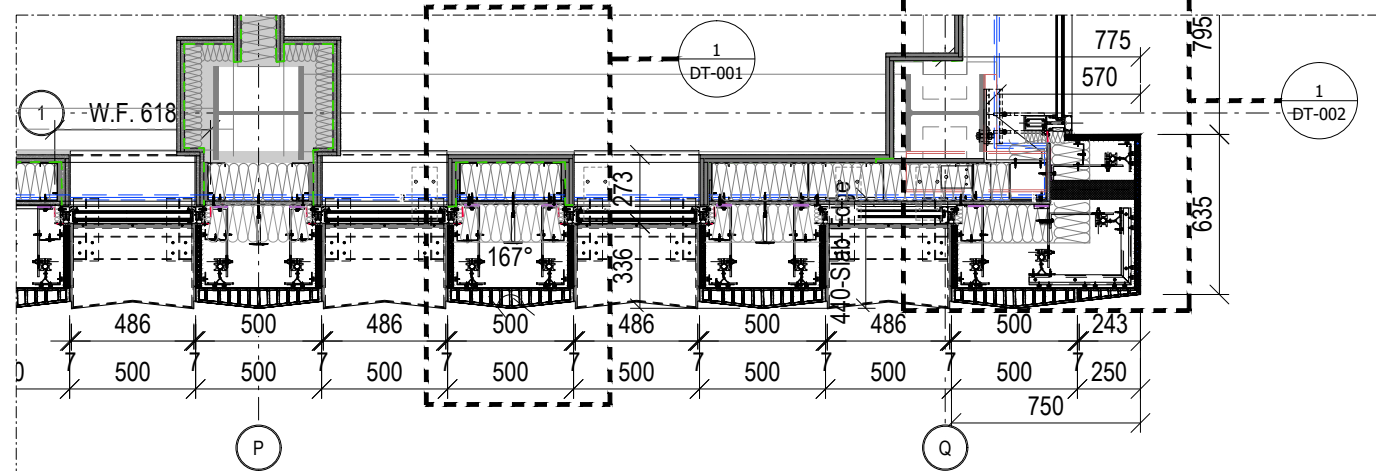
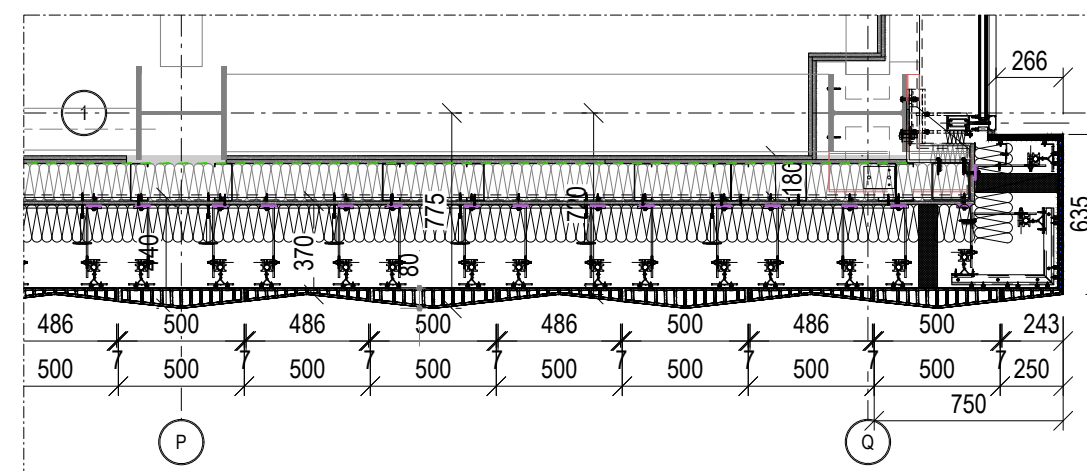
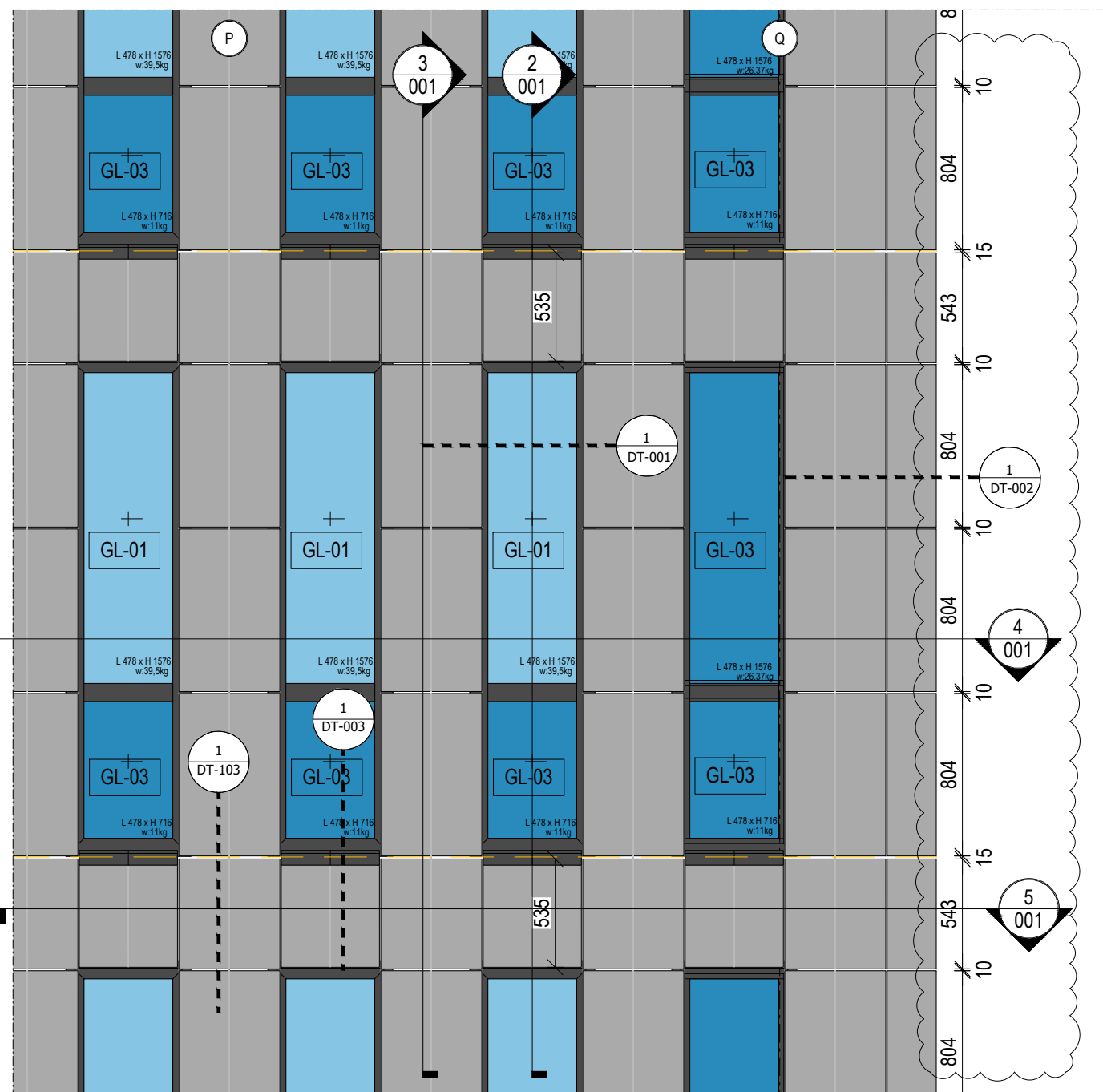
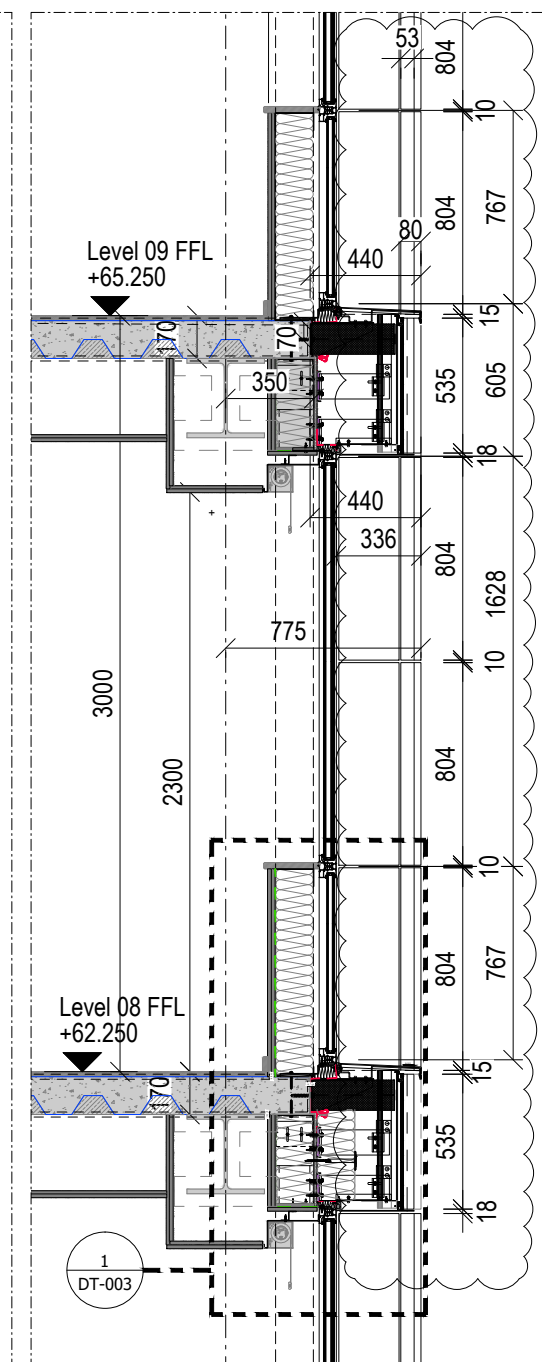
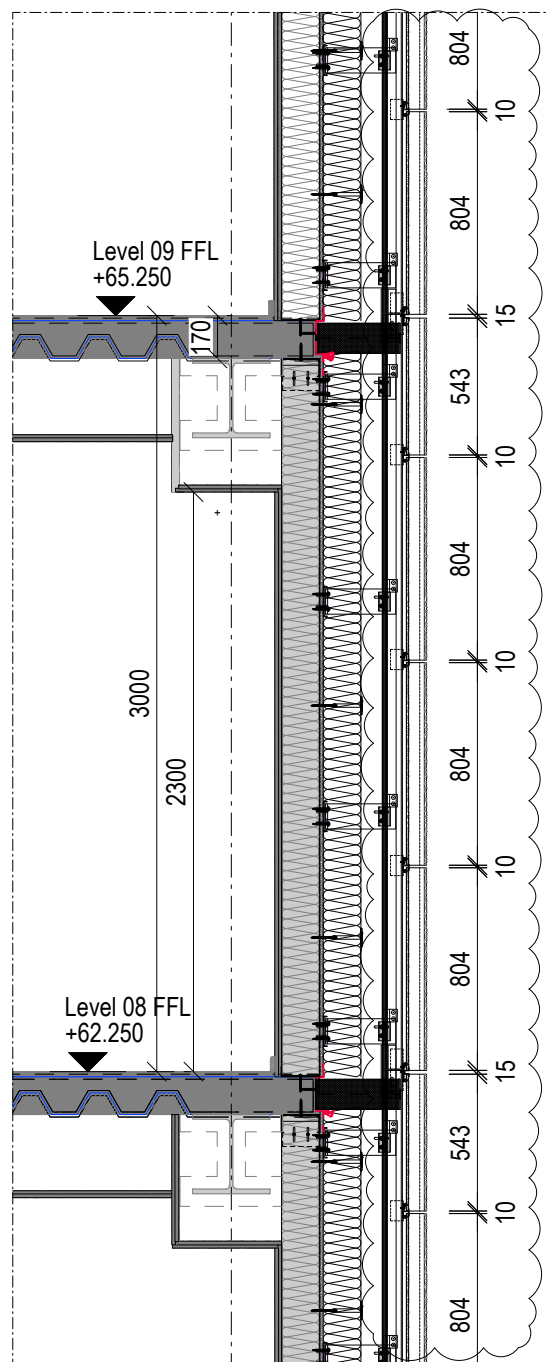
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10446-SHP-Z0-A-G251-3D-XX-001

Revision
P02

simpsonhaugh

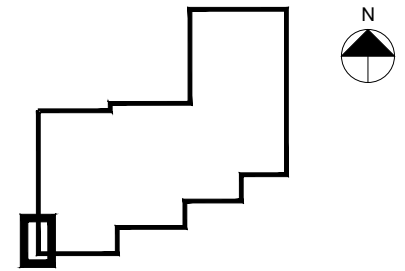
Manchester
+44 (0)161 835 2345
London
+44 (0)20 7549 4000



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- 1.This drawing is the property of Cladup Design Ltd. and shall not be reproduced.
- 2.Do not scale this drawing.work to dimension given. If in doubt ask.
- 3.All dimensions to be verified from site measurement.
4. Dimensions are in millimeters unless otherwise stated.

Key Plan:



Notes:

MATERIAL KEY

- | | |
|---|---|
|  | EWS101-Terracotta(XD SP 059 White Glossy) |
|  | EWS101-Terracotta(XD SP 059 White Glossy) |
|  | EWS102-BRICK(Red match manchester brick) |
|  | EWS102-BRICK(Red match manchester brick) |
|  | EWS103-Terracotta(Dark Grey) |
|  | Clear glazing : GL01 |
|  | 50% Frit Glazing : GL02 |
|  | Spandrel Glazing : GL03 |
|  | |

 - Not Designed by CUD

C02	Terracotta division updated	PS	HA	11/11/2024
C01	Issue for Construction	PS	HA	15/08/2024
P01	Issue for approval	PS	HA	17/06/2024
Rev.	Description	Drawn	Checked	Date

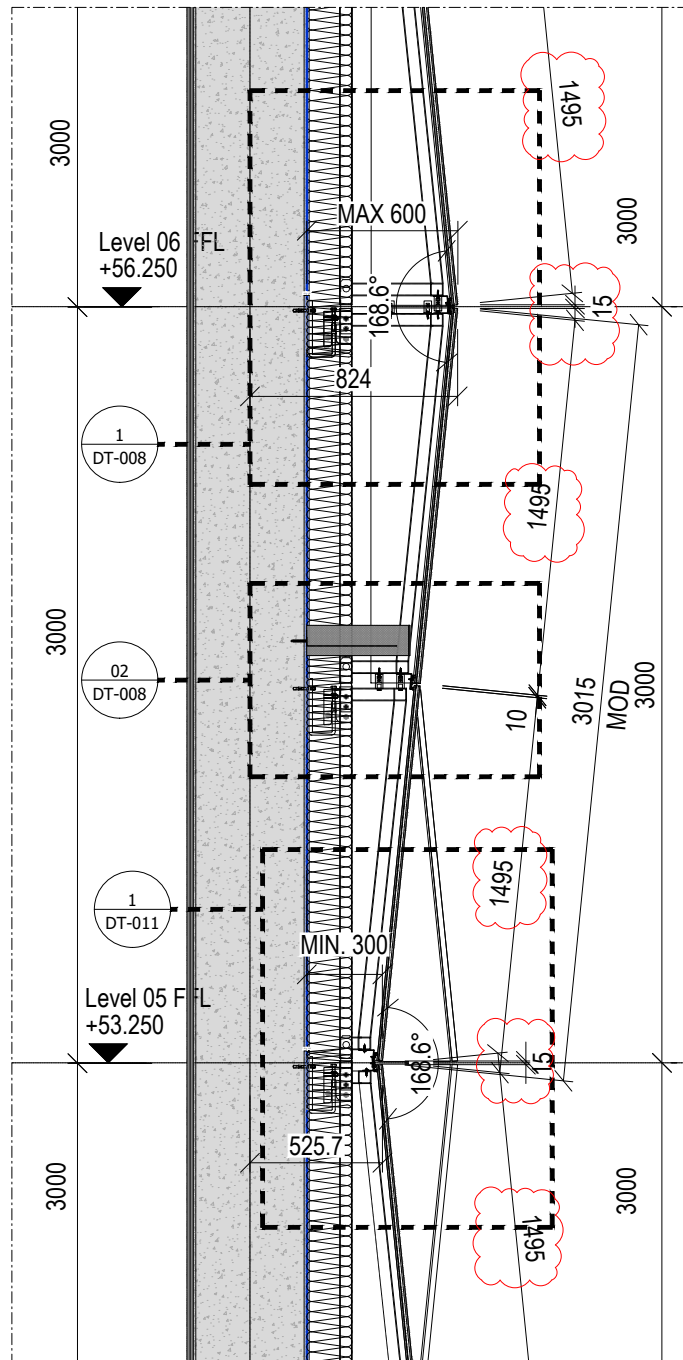


Project Code.:	Project Name:
DEA	325 DEANS GATE

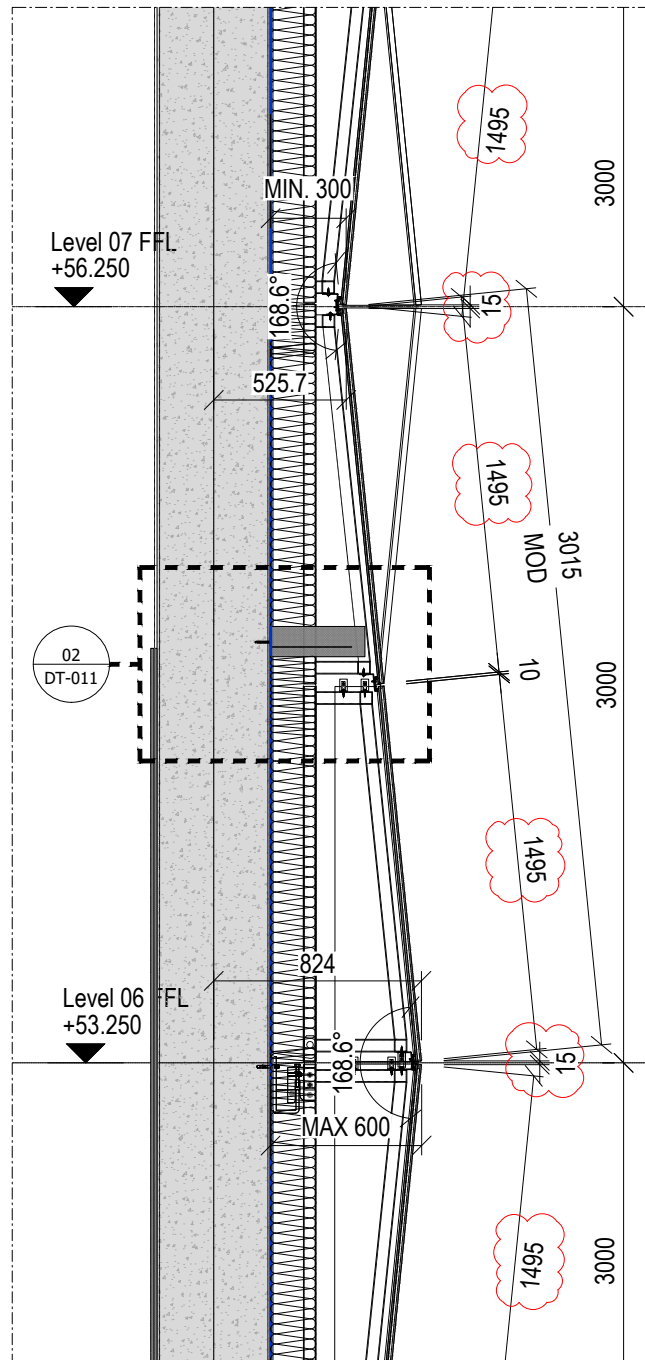
Drawing Status / Purpose:
FOR CONSTRUCTION

Drawing Title:
EWS 101
Vission glass/Spandrel Glass/Terracotta/
Terracotta Corner

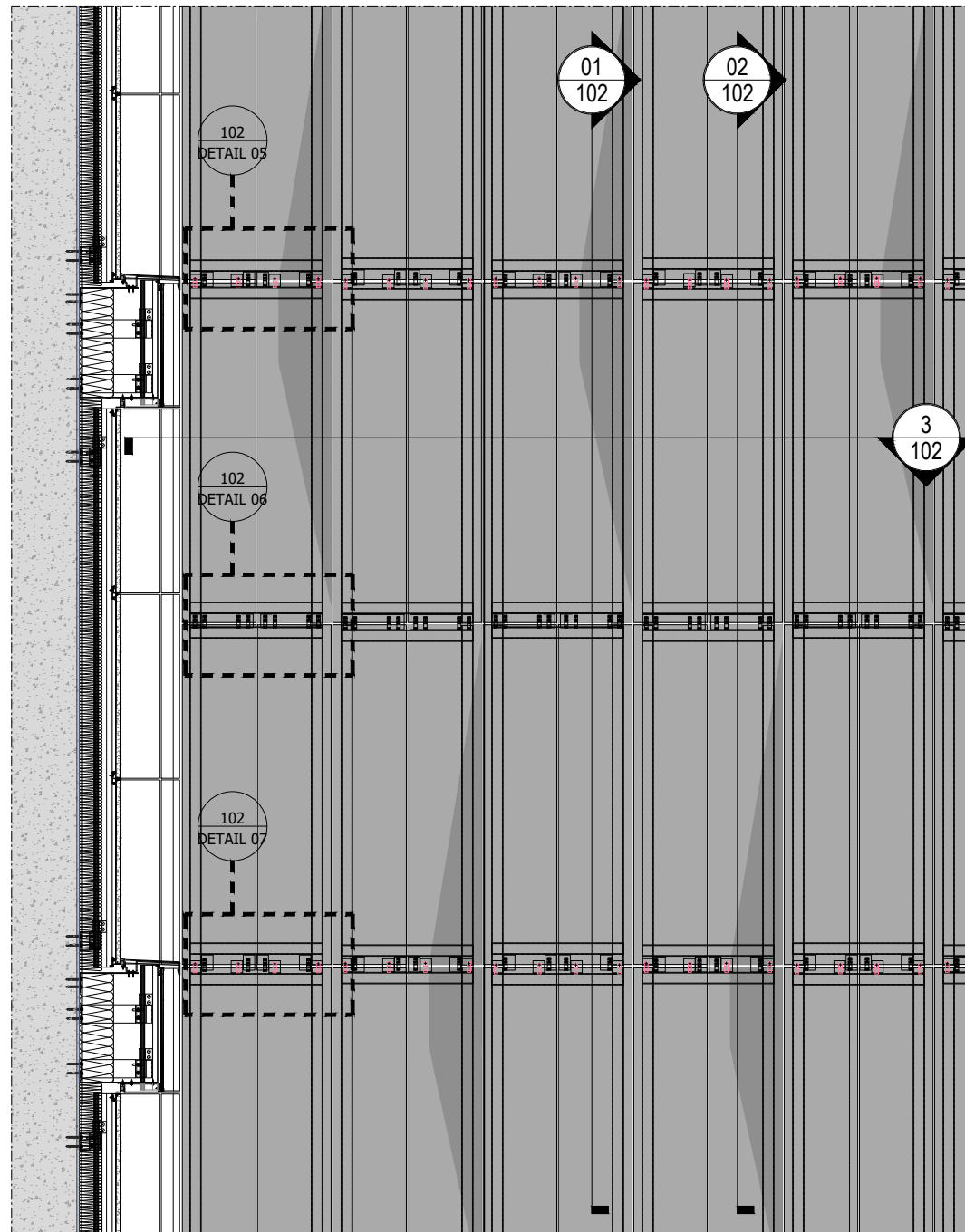
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DEA-CUD-XX-EL-101	1:30 @ A3	C02



01 VERTICAL SECTION
Scale: 1:30

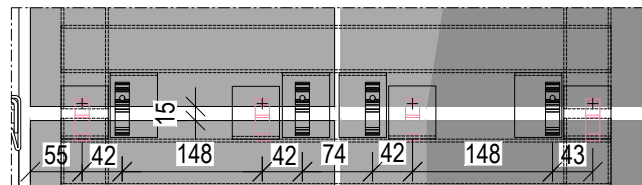


02 VERTICAL SECTION
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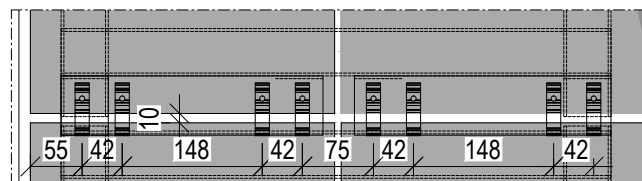


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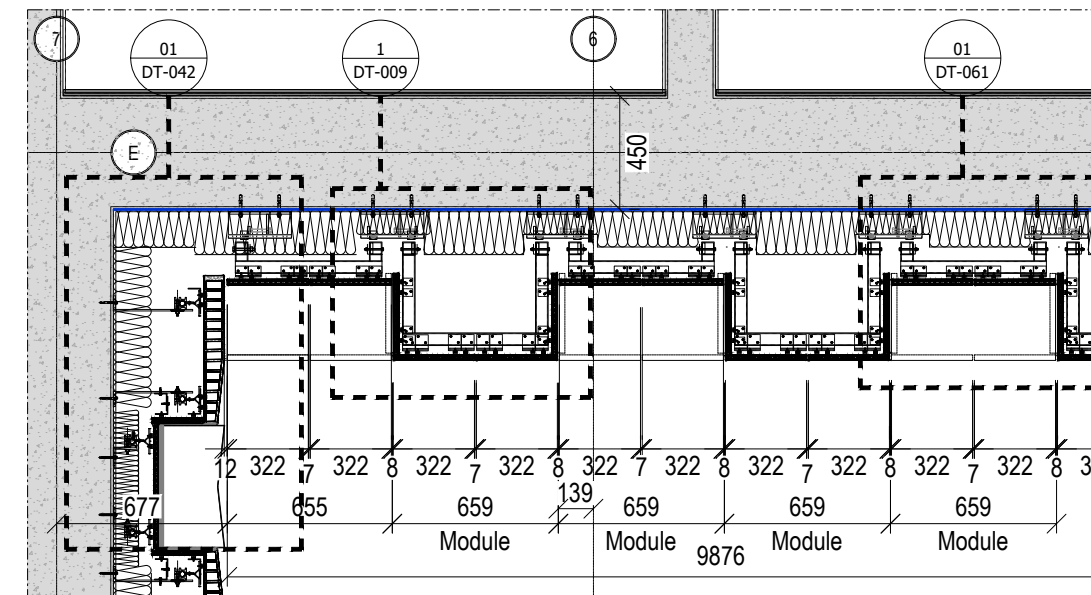
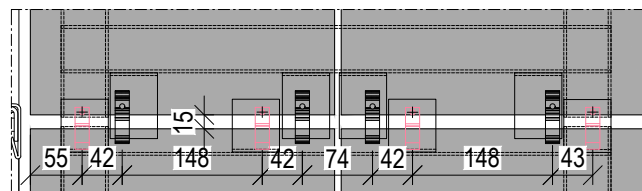
05 OUTER VERTEX JOINT ELEVATION
Scale: 1:8



06 ALIGNED JOINT ELEVATION
Scale: 1:8

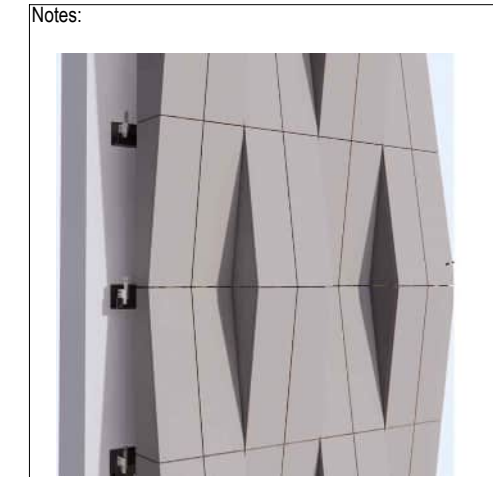
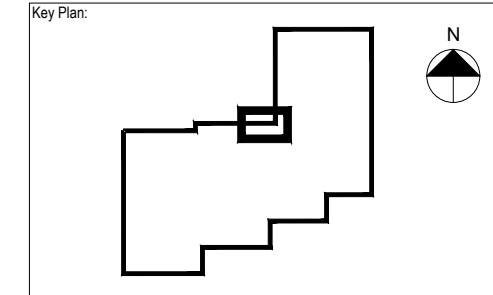


07 INNER VERTEX JOINT ELEVATION
Scale: 1:8



03 PARTIAL PLAN VIEW
Scale: 1:30

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4. Dimensions are in millimeters unless otherwise stated.



- Not Designed by CUD

C02	Panel size updated	PS	HA	13/01/2025
C01	Issue for construction	PS	HA	31/12/2024
P01	Issue for approval	PS	HA	17/06/2024
Rev.	Description	Drawn	Checked	Date

ASSURED
CMS

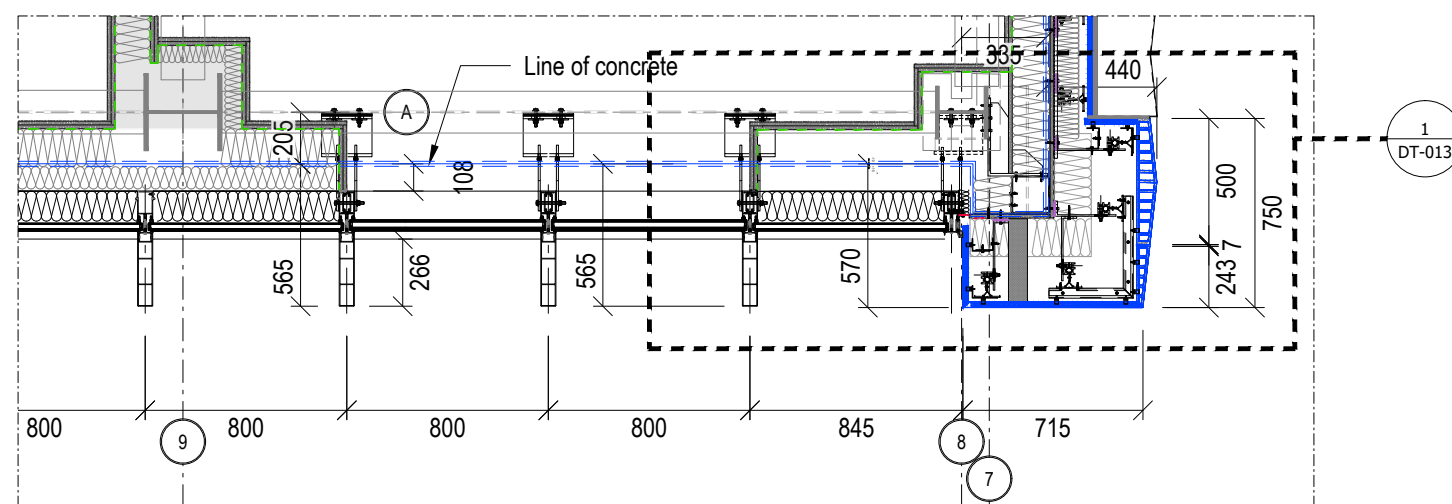
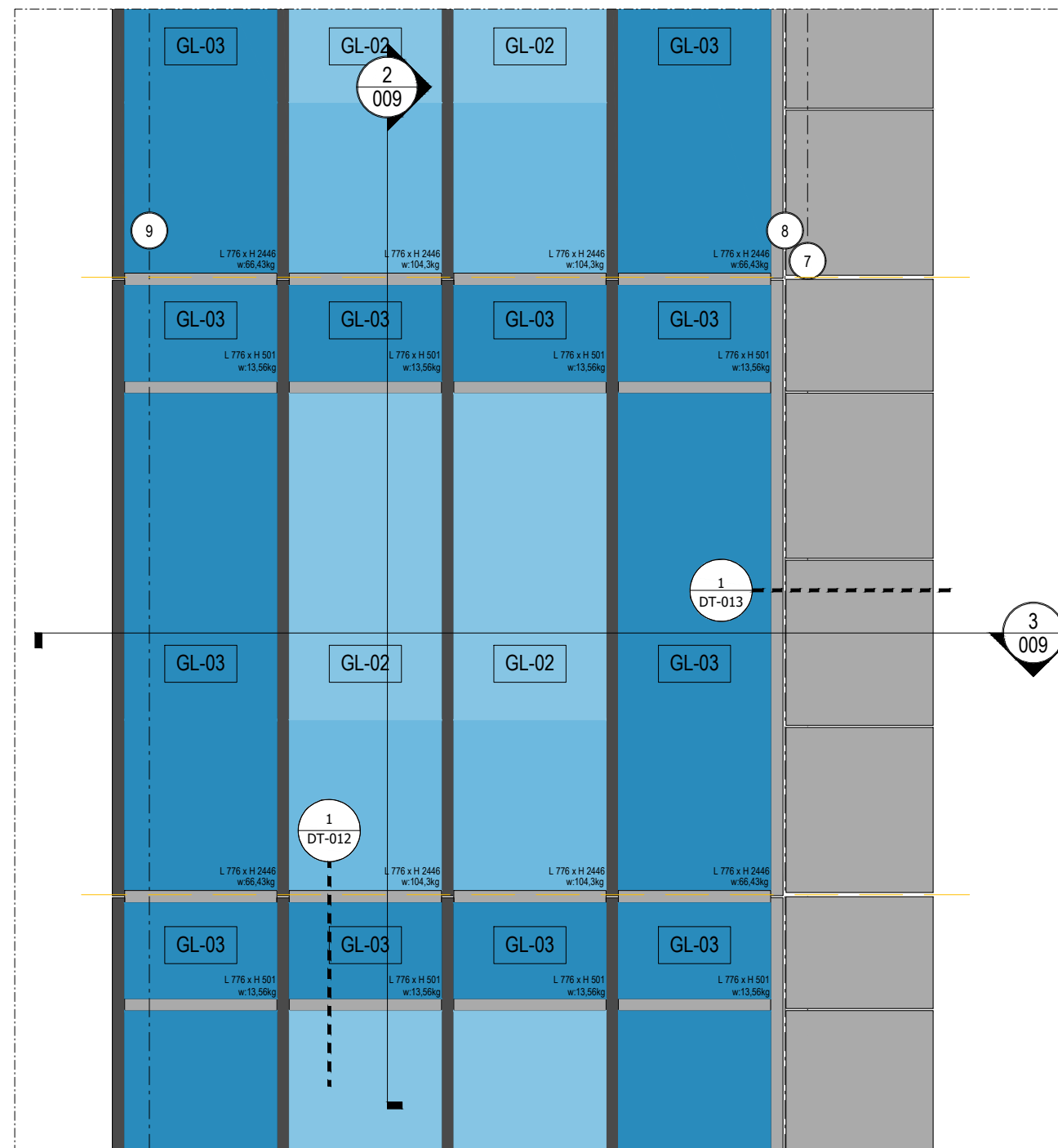
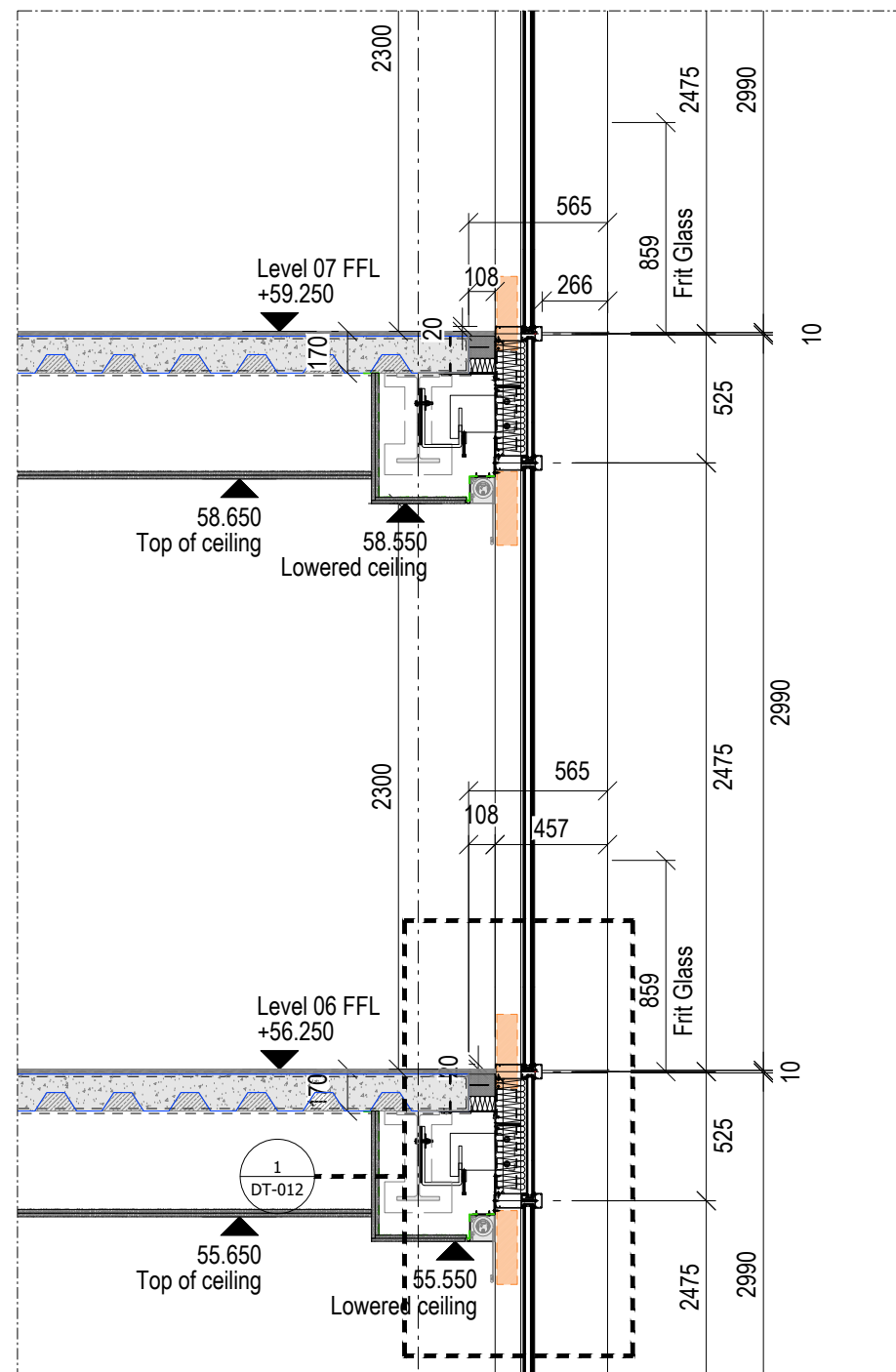
CUD
CladUp Design Ltd

Project Code: DEA Project Name: 325 DEANS GATE

Drawing Status / Purpose: FOR CONSTRUCTION

Drawing Title: EWS 103
Terracotta Rainscreen

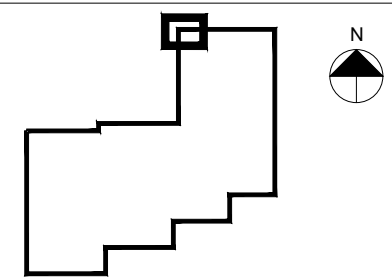
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Standard Noted :

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- 3.All dimensions to be verified from site measurement.
4. Dimensions are in millimeters unless otherwise stated.

Key Plan:



Notes:

MATERIAL KEY

- | | |
|---|---|
|  | EWS101-Terracotta(XD SP 059 White Glossy) |
|  | EWS101-Terracotta(XD SP 059 White Glossy) |
|  | EWS102-BRICK(Manchester Brick) |
|  | EWS102-BRICK(Manchester Brick) |
|  | EWS103-Terracotta(Dark Grey) |
|  | Clear glazing : GL01 |
|  | 50% Frit Glazing : GL02 |
|  | Spandrel Glazing : GL03 |
- 
Movement Joint

 - Not Designed by CUD

C01	Issue for Construction	PS	HA	15/08/2024
P01	Issue for approval	PS	HA	17/06/2024
Rev.	Description	Drawn	Checked	Date



Project Code.:	Project Name:
DEA	325 DEANS GATE

Drawing Status / Purpose:
FOR CONSTRUCTION

Drawing Title:
EWS 201
Vision glass/Spandrel glass/Terracotta corner

Drawing Ref.: DEA-CUD-XX-EL-109	Scale: 1:30 @ A3	Revision: C01
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Appendix 2: Façade Specification

325 Deansgate

Facade Performance Specification

Issue 01

Project Number:	23016
Report Issue Date:	14/02/2024
Report Status:	Stage 4 submission – Draft
Prepared by:	CT
Checked by:	

6 Testing, Mock-ups and Samples

6.1 General

6.1.1 Declarations of Performance (DoP) and test certificates

- A. The contractor shall submit all and any relevant test certificates and/or Declarations of Performance for the systems, assemblies and components of the Works for consideration by the Employer's Agent prior to procurement of the relevant materials to demonstrate compliance with the performance requirements of this specification.
- B. If the documentation does not demonstrate compliance with the performance requirements of section 2 then off-site testing shall be required for the non-compliant systems.
- C. The Contractor shall carry out off-site testing where:
 - i. there is no test certificate available for the proposed facade system, assembly or component
 - ii. the dimensions of the proposed system for incorporation into the Works exceed the dimensions of the certified system
 - iii. the arrangement of the proposed system for incorporation into the Works varies significantly from that of the certified system
 - iv. the components which are proposed to be incorporated into the Works vary significantly from those incorporated into the certified system.

6.1.2 Testing authority

- A. Testing shall be witnessed and certified by an approved UKAS-accredited independent testing laboratory or any other accreditation scheme recognised under the ILAC Mutual Recognition Agreement.

6.1.3 Notification

- A. The Contractor shall provide minimum ten working days' notice in advance of any envelope performance test to the Employer's Agent.

6.1.4 Testing failure

- A. The contractor shall make allowance for all costs, including consultants' fees, associated with any re-testing following any failure.

6.2 Off-site testing

6.2.1 Applicable tests

- A. Curtain walling or rainscreen assemblies shall be tested in accordance with section 6.2.2
- B. Bespoke or altered systemised facade products shall be adequately tested to justify the performance requirements outlined in Section 3 to 5.

6.2.2 CWCT Performance mock-up testing

- A. Construct a project-specific test assembly to prototype the proposed envelope system
 - i. Purpose of test: Demonstrate performance of new envelope system as part of external wall build-up in resisting air infiltration and water penetration

- ii. Prototype description to be proposed by the Contractor, following the guidance of the CWCT Standard for Systemised Envelopes.
- iii. Prototype to include interface with windows and doors included in the curtain walling
- B. Test sequence shall be Test Sequence A or B including impact test (safety and serviceability) according to the CWCT Standard for systemised building envelopes, clause 8.12 and CWCT Technical Update 21.
- C. Notwithstanding the CWCT Standard Test Methods for Building Envelope, the water spray rate for water penetration tests shall be $3.4\text{lm}^{-2}\text{min}^{-1}$
- D. The impact – safety test defined as optional within the test sequence above shall be mandatory and include tests to EN 14019 and TN 76 as appropriate.
- E. The following discretionary test procedures shall be carried out in accordance with the CWCT Standard for systemised building envelopes, clause 8.13.
 - i. Impact – serviceability to TN75 and TN76
 - ii. Fragility tests to TN66 and TN67 (or TN98)
 - iii. Building movements / racking procedure
 - iv. Thermal cycling regime
- F. The following additional test procedures shall be carried out in accordance with the CWCT Standard for systemised building envelopes, clause 8.14. Criteria for tests are provided in Section 2 by facade type.
 - i. Anchor point test
 - ii. Sound attenuation tests
 - iii. Thermal performance testing
 - iv. Fire testing
 - v. Equipotential testing
 - vi. Cyclic wind loading
- G. All test criteria for the relevant facade types detailed in Section 2.
- H. Reporting of the performance mock-up testing shall be in accordance with the CWCT Standard for systemised building envelopes, clause 8.15.

6.2.3 Access equipment impact testing

- A. Construct a project-specific test assembly to prototype the proposed envelope system
 - i. Purpose of test: Demonstrate performance of new envelope system as part of external wall build-up in resisting impact from a cradle.
 - ii. Prototype description: refer to clause 6.2.2 A ii of this document.

- iii. Impact locations to follow CWCT guidelines TN75 and TN76, where the impact body should represent the shape and mass of the projects BMU cradle in order to achieve the required impact energy (serviceability and safety).

- B. All test criteria for the relevant facade types detailed in Section 2.
- C. Reporting of the performance mock-up testing shall be in accordance with the CWCT Standard for systemised building envelopes, clause 8.15.

6.2.4 Security testing

- A. Manual intrusion
- B. Blast
- C. Ballistics

6.2.5 Acoustic testing

- A. Previous test certificates may be submitted for approval provided that the test arrangements match or exceed this project specification in every respect.
- B. Where previous test certificates cannot be shown to demonstrate compliance with the acoustic performance criteria outlined in section 2, the Contractor shall carry out acoustic tests as appropriate.
- C. Facade systems and assemblies shall be tested in accordance with EN ISO 10140 Parts 1 to 5 and EN ISO 10848-1 Parts 1 to 4 inclusive.
- D. The Contractor shall submit sufficient data to the acoustic consultant to provide sufficient confidence in the performance of the components, prior to testing.

6.2.6 Cantilevered glass balustrade testing

Not required for the project.

6.3 On-site testing

6.3.1 Water penetration testing

- A. 10% of the assembled, finished facade (evenly distributed throughout any system) and glazed rooflights shall be site tested for water penetration in accordance with the CWCT 'Standard test methods for building envelopes'.
- B. Site water penetration testing shall be appropriate to the type of joint under test:
 - i. Carry out hose testing to CWCT Standard Test Methods for Building Envelopes, section 9, with guidance from TN41 on fixed joints.
 - ii. Carry out spray bar testing to CWCT Standard Test Methods for Building Envelopes, section 9, with guidance from TN41 on openable joints.
- C. Site water penetration test criteria to be calibrated with the off-site tested prototype for opening joints where appropriate.
- D. Additionally, an initial benchmark construction portion of each principal cladding systems shall be site water penetration tested prior to volume construction.

6.3.2 Whole-building air leakage testing

- A. As required by Approved Document L and the building energy modelling, the Contractor shall coordinate with the Main Contractor for whole-building air leakage testing to CIBSE Test Method TM23, attend the tests and carry out remedial works required to achieve the target performance.
- B. Target performance is defined in section 2 of this document.
- C. If the test fails to conform to the specification, the Contractor shall participate in discussions regarding remedial actions required to the Works and shall, if required, carry out remedial works required until compliance is achieved.

6.3.3 Testing of post-installed fixings

- A. On-site testing of fixings is carried on to ensure the quality of installation. It is done in accordance with BS 8539 and section 3.2 of the CFA guidance note procedure for site testing construction fixings.
- B. Test 2.5% of drilled anchor fixings (per type of fixing and installation team with a minimum of 3) installed on the building structure to 1.5 x the characteristic load on the anchor.

6.3.4 Thermographic testing

Not required for the project.

6.4 Visual Mock-ups

6.4.1 General

- A. The Contractor shall construct, at their facilities or an agreed alternative location (on site to be discussed), visual mock-ups. The configuration and scope of the mock-ups are detailed within the Architectural documentation.

6.4.2 Viewing & acceptance

- A. VMUs shall be viewed in front of a diffused light box or under natural day light condition as appropriate or more stringent.
- B. VMUs shall be adequately supported on temporary structures adequate for its anticipated longevity.
- C. Unless agreed to the contrary with the Employer's Agent, VMUs shall remain accessible for viewing until Practical Completion is achieved for the Works.
- D. The acceptance of the VMUs shall be noted on the Inspection and Test Plan as a Hold Point.

6.4.3 Incorporated materials

- A. Unless agreed to the contrary with the Employer's Agent, VMUs shall be constructed from the specified products, materials and finishes for the final project.
- B. Insulated glass units shall be incorporated with either the previously agreed coatings or a set of agreed options for consideration and acceptance by the Employer's Agent.

6.5 Samples

6.5.1 General

- A. The samples listed in this section shall be submitted to the Employer's Agent for acceptance during detailed design development and prior to the commencement of fabrication and assembly of the Works.

- B. Samples shall demonstrate the intended geometry, texture and colour of the component in question including the specifically intended material processing techniques.
- C. Samples shall be prepared at the Contractor's works for use as quality benchmarks.
- D. The accepted visual quality of the benchmark profiles will be taken to represent the expected minimum standard.
- E. Samples shall be retained until Practical Completion.

6.5.2 Metal profiles and panels

- A. Samples shall be considered to be benchmark samples unless agreed to the contrary with the Employer's Agent.
- B. The Contractor shall provide three of each type of visible profile and panel in any of the finishes that it shall be incorporated into the works.
- C. Longitudinal profiles shall be constructed of 1000mm length.
- D. Two dimensional components, such as sheet, shall be constructed of 1000mm by 1000mm.
- E. Once accepted by the Employer's Agent, the samples shall be cut into five equal sizes and held by:
 - i. Employer's Agent
 - ii. Architect
 - iii. Contractor
 - iv. Coating applicator
 - v. Third party coating inspector

6.5.3 Float glass

- A. To facilitate coating selection, the Contractor shall provide one sample for each glass coating option to the Employer's Agent for their consideration. Each proposed coating shall be capable of satisfying the specified solar and light performance requirements. Initial samples shall be provided on a 300mm by 300mm flat insulated glass unit with all lites of mid-iron glass.
- B. Following coating selection, the Contractor shall provide flat samples of each glass type (with the correct project build-up) at dimensions of 1000mm by 1000mm to be considered as benchmark samples, representing the finish quality to be provided.
- C. Three copies of each glass type of sample are required. Each sample shall be inspected and accepted by the Employer's Agent. On acceptance of the benchmark samples, one copy is to be retained for inspection on site, the second at the Architect's office and the third at the Contractor's works for their quality assurance checks.
- D. Following coating selection, the Contractor shall provide one full size curved IGU of GL-34.
- E. The Contractor shall provide a visual sample at dimensions of 4500 by 1500mm for inspection and review by the Employer's Agent at the glass fabricator's facility.
- F. Benchmark samples shall be produced as soon as is practicable after acceptance of the finalised glass schedule, forming part of the Contractor's Proposals.

- G. Benchmark samples shall be retained until installation is complete; all installed glass shall comply with the accepted samples as a minimum.

6.5.4 U-channel glass

N/a for the project.

6.5.5 Brick Slips

- A. The Contractor shall initially provide samples for each brick finish type for consideration and approval by the Employer's Agent.
- B. Samples to include special bricks, cut bricks to show representing any possible variation in appearance for consideration and approval by the Employer's Agent.

6.5.6 Architectural precast concrete

N/a for the project.

6.5.7 GRC

N/a for the project.

6.5.8 Stone

N/a for the project.

6.5.9 Timber

N/a for the project.

6.5.1 Terracotta

- A. To facilitate selection of colour and finish of the Terracotta, the Contractor shall initially provide five samples for each finish type of various terracotta single glazed finishes for consideration by the Employer. Initial samples shall be a full terracotta tiles size.
- B. Once the base colour and finish have been confirmed and accepted by the Employer, the Contractor shall produce three range benchmark samples for each finish type showing acceptable colour variation, of a full single tile size, which shall be set up in the Contractor's finishing works for reference. The benchmark range samples shall be reviewed and accepted by the Employer prior to fabrication commencing.

6.5.2 Miscellaneous

- A. The Contractor shall provide one sample for each type of the following articles which will be incorporated into the Works. Components shall be provided full scale, longitudinal samples shall be 1000mm long and two dimensional samples shall be 1000mm by 1000mm.
- i. Window and door hardware
 - ii. visible sealant
 - iii. visible fixings
 - ~~iv.~~ insect mesh

Appendix 3: Document Issue Schedule



YY	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	25	
MM	6	6	6	7	7	8	8	8	8	8	9	9	9	10	10	10	11	11	12	12	1		
DD	7	18	20	4	19	1	6	12	15	27	28	3	9	23	9	21	28	5	26	13	18	6	

Distribution:			
Role	Organisation		For attn of.
Client	-		WW

[illegible][illegible]

Rev	Date
C01	15/8/2024
C02	9/10/2024
C01	21/10/2024
P01	15/8/2024
C01	3/9/2024
C01	12/8/2024
P01	7/6/2024
C01	23/9/2024
C02	9/10/2024
P02	18/12/2024
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C01	9/10/2024
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C01	9/10/2024
C01	9/10/2024
C01	9/10/2024

DEA-CUD-XX-TS-0022	TS022 - Saint Gobain - GL03	For Approval	1/8/2024	P01						P01																				P02	23/9/2024
DEA-CUD-XX-TS-0024	TS024 - Linco Engineering - Weather Louvre	For Approval	15/8/2024									P01																		P01	15/8/2024
DEA-CUD-XX-TS-0025	TS0025 - FloorSpan -Subgrid System	For Approval	7/6/2024																											P01	7/6/2024
DEA-CUD-XX-TS-0026	TS0026 - Siniat Weather Defence	For Approval	1/8/2024								P01																			P01	1/8/2024
DEA-CUD-XX-TS-0027	TS0027 - Ash&Lacy Fixings	For Approval																													
SAMPLE SUBMISSION																															
DEA-CUD-XX-SS-0001	SS - Favemanc Terracotta	For Approval	1/8/2024							P01																			P01	1/8/2024	
DEA-CUD-XX-SS-0002	SS - Ash&Lacy - Mechslip	For Approval	1/8/2024							P01																			P01	1/8/2024	
DEA-CUD-XX-SS-0003	SS - Saint Gobain - GL01	For Approval	1/8/2024							P01																			C01	6/1/2025	
DEA-CUD-XX-SS-0004	SS - Saint Gobain - GL02	For Approval	1/8/2024							P01																			C01	6/1/2025	
DEA-CUD-XX-SS-0005	SS - Saint Gobain - GL03																												P01	6/1/2025	
DEA-CUD-XX-SS-0006	SS - Reynaers - CW60	For Approval	1/8/2024							P01																			C01	6/1/2025	
REPORTS																															
DEA-CUD-XX-RP-001	Cavity Barrier & Fire Stopping Markup	For Approval	18/6/2024		P01																								P02	23/9/2024	
DEA-CUD-XX-RP-001	Glass Risk Assessment Report	For Approval																													
INSTALLATION SEQUENCE																															
DEA-CUD-XX-IS-001	EWS-102 Windows and Bricksip - Installation Sequence	For Construction	26/11/2024																										C01	26/11/2024	
DEA-CUD-XX-IS-002	EWS-101 Windows and Terracotta - Installation Sequence	For Construction	26/11/2024																										C01	26/11/2024	

Issue Status: P=Preliminary C=Construction AB=AsBuilt I=Information

No of documents

6	1	1	2	1	15	8	3	4	1	1	4	2	4	14	1	1	1	2	2	1		
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- P01
- C01
- S3 - For Review & Comment
- A1 - For Construction

Appendix 4 Process Control Matrix

Appendix 4 - Process Control Matrix

Design Management

ref.	Task / Deliverable	Description	Who	Doc. / Form / Instruction	Frequency	Characteristics to be verified
DM1	Contract review	Review project requirements relevant for Design and Engineering	DM LCD	Façade Performance Checklist	Kick-off	All performance requirements
DM 2	Project Design Plan	Project strategy for Design and Engineering	DM	Design Plan phase 1 and 2	Project start up	Team strategy regarding design
DM 3	Façade Performance Checklist	Checklist capturing all contractual and statutory requirements relevant for Design and Engineering	DM LCD	Façade Performance Checklist	Project start up	All contractual, technical and performance requirements
DM 4	Visual Mock-up	Mock-Up of representative artificial or real materials to show the façade as per the approved design	PM DM	Visual Mock-up inspection report	According to the contract	Architectural drawings, Contract specification
DM 5	Design Review	Review of the design and calculations. A Design Review is performed in several stages of the design process, with different focus areas and different review teams, according to the AF&F Management System.	DM Varying review teams	Façade performance checklist	According to design planning	Contractual requirements, Budget, Produceability, Installability, Quality, Safe
DM 6	Movement & Tolerance Plan	Assess the allowable tolerances on the main structure, curtain wall and all relevant parts	DM	Tolerance Plan	Start-up	Joint sizes and offset of joints, Position of the façade
DM 7	Material specifications	Material specifications for all materials to be ordered for the project	DM LCD QM	Project Material Specification, Material Datasheet	Each material	Contract specification, Standards
DM 8	Material Inspection & Test Plans	I&TP's describing the quality assurance processes of the critical materials of the project	QM DM PM LM	Project Quality Plan including appendices	Start-up	Contract specification

ref.	Task / Deliverable	Description	Who	Doc. / Form / Instruction	Frequency	Characteristics to be verified
DM 9	Coordination Request For Information	Raise RFIs and co-ordinate with interfacing contractors.	DM	RFI Register	Continuous	
DM 10	Approval of samples	Design and Quality control of all samples prior to issuing	DM QM	Quality Control Record	All samples	Contract specification, AF&F datasheet
DM 11	Approval of drawings, calculations, reports and samples	Approval to be managed by the main contractor	Client	Main Contractor Document Management System, AF&F Document Issue Schedule	According to project planning	Contract specification
DM 12	Review approved drawings, calculations, reports and samples	Review approved drawings, calculations, reports and samples on conflicts with the façade design or contract agreements	DM	Document Management / Submittal System		All information returned to AF&F after approval process
DM 13	Performance Mock-Up	Performance tests as per contract agreements	DM TE PM	Performance test report	According to contract	Contract specification
DM 14	Material-, machining- and assembly drawings	Drawings for material procurement and façade production	DM	Guidelines production drawings	Continuous	
DM 15	Installation, manuals, instructions and drawings	Information to instruct the site team what, how and where to install the façade	DM	Guidelines installation drawings	Continuous	
DM 16	Site Benchmark	Agreed area of the façade for inspection of the quality of the façade installation	SM PM DM	Design and installation drawings, Installation checklists	According to contract	Contract specification, Tolerance plan
DM 17	Site testing	Tests to verify the performance of the façade	SM PM DM	Site Test Report	According to contract	Contract specification
DM 18	As-build drawings, Operations & Maintenance Manual	As-build drawings. Manual with operation instructions for all relevant façade parts, maintenance instructions	DM	Operations & Maintenance Manual	Once per project	Operation instructions, Maintenance instructions, As-build drawings

Procurement

ref.	Task / Deliverable	Description	Who	Doc. / Form / Instruction	Frequency	Characteristics to be verified
PR1	Contract review	Review project requirements relevant for Procurement	PM, LM, MP, DM	Project Procurement Plan	Kick-off	All procurement related requirements
PR2	Project Procurement Plan	Project strategy for Procurement of materials and services	PM, PDM, MP, LM	Project Procurement Plan	Project start up	Team strategy regarding procurement
PR3	Supplier approval	New suppliers are assessed before added to the 'List of qualified suppliers'	PDM, QM	Supplier Qualification forms, Approved Supplier List	Each new supplier	According to AF&F Management System
PR4	Request for quotation	Selected potential suppliers are requested to make a quotation	MP, LM, DM, PM	Request for Quotation	Each contract	RFQ content as defined in the AF&F Management System
PR5	Comparison of supplier quotations	Comparison of supplier quotations, in order to compare the quotations on a set of pre-defined characteristics	MP, PDM	Project Price List	Each contract	Price and planning, Capabilities, Supplier evaluations, Quality Man. System
PR6	Supplier selection	Final selection of the supplier to award the supply contract	PM, MP, LM	Project Price List	Each supply contract	Price and planning, Capabilities, Supplier evaluations, Quality Man. System
PR7	Purchase contract	A purchase agreement made for all materials and services under specific conditions	MP	According to procurement	Each supply contract	Completeness of the contract according to the AF&F Management System
PR8	Supplier Kick-off	Meeting between AF&F, Core Facade and supplier team before start production at the supplier	PM, MP, DM, LM, QM	Procurement contract, Agenda Supplier Kick-off	All pre-defined supply contracts	According to the agenda supplier kick-off
PR9	Supplier evaluation	Evaluation of the suppliers performance	MP, PM, LM, QM	Supplier evaluation form	For each supplier with a project contract value $\geq$ £ 50,000	According to supplier evaluation form

Supply Chain And Production Management

ref.	Task / Deliverable	Description	Who	Doc. / Form / Instruction	Frequency	Characteristics to be verified
MN1	Contract Review	Review contract requirements relevant for Production.	LM, PM	Project Production Plan	Project start up	Team strategy regarding Production and shipping
MN 2	Project Plan Production	Project strategy for Production and shipping of materials	LM	Project Production Plan	Project start up	Contract requirements, Production strategy
MN 3	Inspection and Test Plans and Quality Control Records production	The quality assurance strategy for the production, including control record production	LM, QM, DM	Inspection & Test Plan, Quality Control Record	Each different panel type	Drawings, Datasheets, Packing instructions
MN 4	Purchase requisition	Transfer of a material requirement in the SAP system, into a purchase requisition	LM	AF&F Management System	Each material requirement	Order content, Price, Delivery date, Delivery conditions
MN 5	Purchase order	Transfer a purchase requisition in the SAP system into a purchase order	MP	AF&F Management System	Each purchase requisition	
MN 6	External quality control	According to the Project Quality Plan and based on the performance of the suppliers, External Quality Control visits are planned to check the supplier processes and the products.	QM, QI, PM	External Quality Control Report	According to I&TP's	Supplier processes and the products according to template report and Quality Control Record
MN 7	Quality control incoming goods	Quality control on incoming goods is performed during the receiving process and during storage in the warehouses	QM, QI	Inspection & Test Plan, Quality Control Record	According to I&TP's	Material Datasheet
MN 8	Approval of First Article	The First Article is a panel produced to review the production quality	PM, LM, QM	Procedure and forms according to AF&F Management System	According to Project Production Plan	Production workmanship
MN9	Quality control machined parts	The first profile of a batch profiles to be machined, is checked	Prod Man Factory employees	Drawing, No registration form	Each first new profile	Correctness to drawing
MN10	Quality control assembly	Along with each single panel a Quality Control Record proceeds, containing the checks to be carried out during the production of the panels	Prod Man Factory employees	Quality Control Record	Each single panel	Correctness to drawing
MN11	Packing	Each product is sufficiently packed and clearly identified by means of a label	LM, Factory employees	Identification label	Each pack	Packing according to packing instructions
MN12	Shipment	Each product is shipped to site. Shipment is managed via SAP	LM, LD	CMR	Each shipment	Correct shipping papers

Installation Management

ref.	Task / Deliverable	Description	Who	Doc. / Form / Instruction	Frequency	Characteristics to be verified
IM1	Contract review	Review the contract for requirements relevant for installation	SM, PM	Project Installation Plan	Kick-off	All installation and hand-over related requirements
IM2	Project Plan Installation	Project strategy for Installation	SM	Project Installation Plan	Project start up	Team strategy regarding installation
IM 3a	Project Method Statement	Method statement describing the general approach for the installation works	SM	Project Method Statement	Project start up	Contract specification
IM 3b	Method Statements / Task sheet	Method statement describing the installation method for each different panel type	SM	Method statement installation works	Each installation method	Contract specification
IM 4	Project Health & Safety Plan	Installation strategy regarding Health & Safety	SM, PM, HSE	Health & Safety Plan	Project start up	Contract specification
IM5	Site Inspection & Test Plan	SI&T Plans describing the quality assurance processes of the installation works	SM, DM, QM	Site Inspection & Test Plan	Project start up	Contract specification
IM6	Call of materials	Material Call-off	SM	SAP system	Each product	Availability of the materials
IM7	Site Benchmark	Agreed area of the façade for inspection of the quality of the façade installation works	SM, PM, DM	Design and installation drawings, installation checklists	As per contract agreement	Contract specification, Tolerance plan
IM8	Quality control installation works	Quality checks are performed as defined in the SI&T Plans. Checks performed are recorded on the Site Quality Control Records	SS, SM	Site Quality Control Record	According to SI&T Plans	Correctness to drawing, manual and instructions
IM9	Site testing	Tests to verify the performance of the façade	SM, PM, DM	Procedure site hose testing	As per contract agreement	Contract specification
IM10	Inspection	Inspection of the façade on damages and workmanship with the client, prior to protection	SM, SS, Client	Site Quality Control Record	Per agreed parts of the façade	Contract specification
IM11	Protection	Protection of the façade	SS, SM	Site Quality Control Record	Per agreed parts of the façade	Suitability of the protection

ref.	Task / Deliverable	Description	Who	Doc. / Form / Instruction	Frequency	Characteristics to be verified
HO1	Removal of the protection	Just before the handover inspection the protection is removed	SS	No	Once just before the final hand over	No
HO2	Handover inspection	Inspection of the façade, taking into account the findings during the pre-protection inspection.	SM, PM, Client	Site Quality Control Record	Per agreed parts of the façade	Contractual specifications, Inspection criteria, Repair procedures
HO4	De-snagging	Repair of all deviations agreed during the inspections	SM	Site Quality Control Record	Once per part of the façade	Repair procedures
HO5	Final Handover	Final handover to the client	PM, SM, Client	Site Quality Control Record	Once per part of the façade	Signed off by all parties involved

Appendix 5 Inspection viewing criteria.

Title: Inspection viewing criteria

Rev - C01

This document outlines the standards for visual examination of the façade. Visual inspections of the façade or its components are carried out when approving Benchmarks, during Site Benchmark assessments, and at the façade handover of the project.

Inner side:

Visual inspections should be conducted through visual assessments from a distance of 3 meters, directly perpendicular to the significant surface for vertical elements, and from 15 degrees (left and right) for horizontal elements. Each inspection should last no longer than 1 minute, performed under diffuse outdoor daylight conditions without internal lighting.

Outer side:

Visual inspections should be conducted from a distance of 5 meters, directly perpendicular (90 degrees) and 45 degrees upwards for vertical elements, and 45 degrees (left and right) for horizontal elements. Each inspection should last no longer than 1 minute, performed under diffuse outdoor daylight conditions without internal lighting.

Compliance criteria for the façade are defined by the contractually specified standards, such as CWCT TN34. Individual products must be evaluated upon receipt or during production, adhering to the contractually specified standards for each material.

Materials Table:

Material	Standard	Viewing Distance Inside (m)	Viewing Distance Outside (m)
Glass	HaDaMar	1	3
PPC finish	Qualicoat	3	5
Anodized	Qualanod	3	5
GFRC	GRCA techNOTE 10	5	5

This ensures all materials and components are reviewed under consistent and rigorous inspection criteria to maintain quality and compliance.

Appendix 6 Example Inspection & Test Plans

Manufacturing Process & Inspection Plan

PHASE (Stage)	FEATURE (Characteristics)	REQUIREMENT (Specification)		FREQUENCY (Frequency)	REGISTRY (Registration)	CONFORMITY (Conformity)	
		METHOD (Method)	VALUE (Value)			YES (Yes)	NO
PHASE 1 Clays Mixtures preparation	Moisture content of the mixture (Raw material humidity)	IO-02	≤6%	Once per grinding	Computer scientist	X	
	Granulometry of chamotte (Chamotte grain size)	IO-02	Depends on the type of chamotte	Once per grinding	Computer scientist	X	
	Presence of carbonates (Carbonates)	IO-02	–(1)	Every three months	Lab Certificate	X	
PHASE 2 Extrusion (Extrusion)	Hardness (Hardness)	IO-04	–(2) Plastometer (Automatic)	Hourly	Biscuit factory control report	X	
		IO-04	–(2) Penetrometer (Manual)			X	
	Biscuit maker temperature (inlet temperature)	IO-04	–(2)	Every 2 hours		X	
	Aspect (Visual aspect)	IO-04	IO-04	Hourly		X	
	Dryer outlet temperature (outlet temperature)	IO-06	≥30	3 times per shift	Dryer output control sheet	X	
	Weight (weight)	IO-03	–(3)	Every day or production	Daily production review report on moulds	X	
	Dimensions (Dimensions)	IO-03	–(3)	Every day or production		X	
PHASE 3 Glazed and decorated (Glazed and decorated)	Density of the engobe (Engobe density)	IO-05	–(4)	Hourly	Enamel part	X	
	Enamel density (Glaze density)	IO-05	–(4)	Hourly		X	
	Application weight (Weight after application)	IO-05	According to colour Programming of the machine	Each Wagon	No registration	X	
PHASE 4 Cooking (Firing)	Humidity (Humidity)	IO-06	≤2%	2 times per shift	Inlet side of the roller kiln	X	
	Pre-oven temperature (Pre-kiln Temperature)	IO-06	≥95°C	Each Wagon		X	
	Oven temperature (Kiln Temperature)	IO-06	Programming of the machine	Each Wagon	No registration	X	
PHASE 5 Classification (Classification)	Aspect (Visual aspect)	IO-07	IO-07	Each piece	Wagon overhaul sheet	X	
	Dimensions (Dimensions)	IO-07	–(4)	Each piece	Daily production review report	X	
	Surface flatness (Flatness)	IO-07	–(4)	Each piece		X	
	Straightness of the sides (Side straightness)	IO-07	–(4)	Each piece	No record (5)	X	
PHASE 6 Machining (Machining)	Dimensional control at the exit of the machining process (Dimensional control)	IO-08	UNE-EN ISO 10545 - 2	Each pallet (operator)	Document of delivery and receipt of cut material	X	
		IO-07		Every day random parts (Technical Dept.)		X	
	Orthogonality (Squareness)	IO-07		Each pallet		X	

- (1) No limits are set for the presence of carbonates.
- (2) Depends on the type of board: (XA, XB, XBPRO, XC or XD).
- (3) There is a reference sheet for each type of plate.
- (4) It depends on the type of plate.
- (5) No registration if the part does not comply it is rejected.

Appendix 7 Example Quality Control Records

Appendix 7 - Example Quality Control Records

For the Deansgate project, the façade quality system has been meticulously integrated into the Fieldwire application, an advanced platform designed to streamline construction management and maintain comprehensive quality records. This application ensures real-time tracking, collaboration, and management of façade-related tasks, from installation to handover.

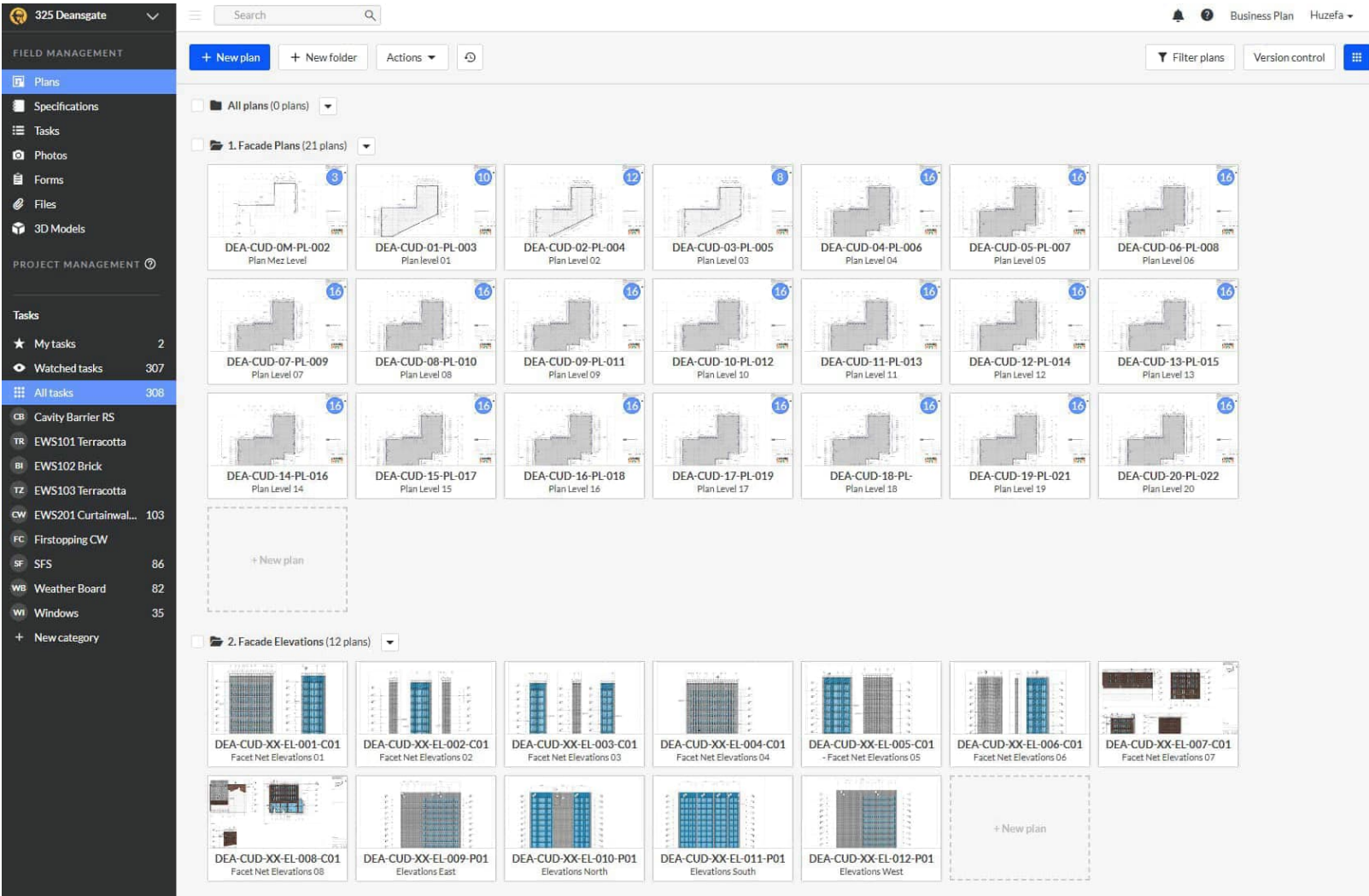


FIELDWIRE

A GROUP COMPANY OF **HILTI**

7.1. Use of Fieldwire for Quality Management

Fieldwire serves as the central repository for all quality-related data, enabling the project team to efficiently manage and monitor the progress of façade installation and snag resolution. The system provides the following features:



7.2. Task Management:

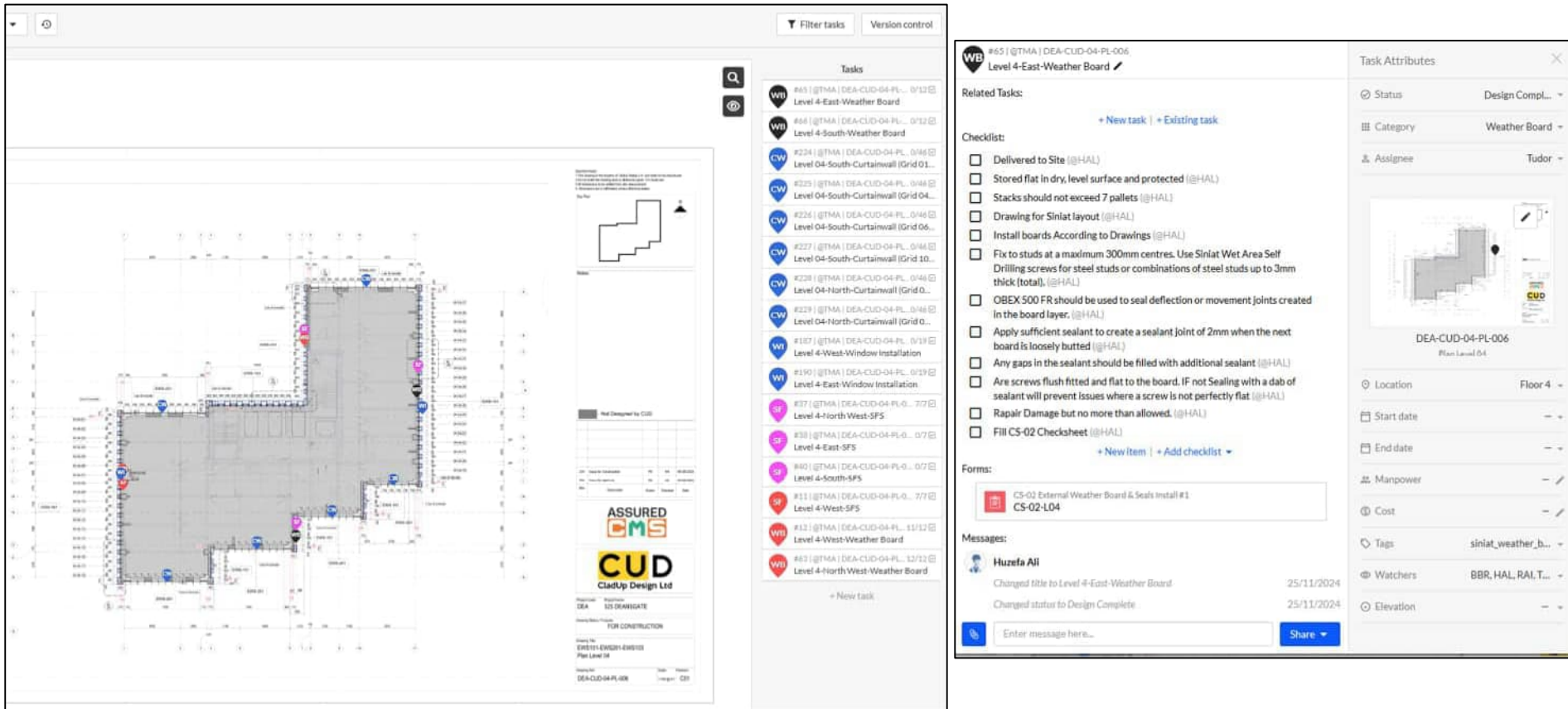
Tasks have been established for key elements of the façade, including cavity barriers, terracotta, brick, curtain walling, and weatherboards. Each task is linked to installation check sheets, ensuring all activities are documented and aligned with the project specifications.

Design Complete (118)			Ordered (140)			Delivered (19)			Installation in Progress (33)			Ready for Inspection (0)		Final Signoff (0)	
SF #52 @TMA DEA-CUD-09-PL-011 Level 9-East-SFS 0/7	CW #224 @TMA DEA-CUD-04-PL-006 Level 04-South-Curtainwall (Grid 01 to 04) 0/46	SF #21 @TMA DEA-CUD-08-PL-010 Level 8-West-SFS 7/7	SF #10 @TMA SFS W04	+ New task		+ New task									
SF #53 @TMA DEA-CUD-09-PL-011 Level 9-South-SFS 0/7	CW #225 @TMA DEA-CUD-04-PL-006 Level 04-South-Curtainwall (Grid 04 to 06) 0/46	SF #26 @TMA DEA-CUD-02-PL-004 Level 2-North West-SFS 0/7	SF #11 @TMA DEA-CUD-04-PL-006 Level 4-West-SFS 7/7												
SF #54 @TMA DEA-CUD-10-PL-012 Level 10-North West-SFS 0/7	CW #226 @TMA DEA-CUD-04-PL-006 Level 04-South-Curtainwall (Grid 06 to 10) 0/46	SF #27 @TMA DEA-CUD-02-PL-004 Level 2-North-SFS 1/7	SF #13 @TMA DEA-CUD-05-PL-007 Level 5-West-SFS 7/7												
SF #55 @TMA DEA-CUD-10-PL-012 Level 10-East-SFS 0/7	CW #227 @TMA DEA-CUD-04-PL-006 Level 04-South-Curtainwall (Grid 10 to 11) 0/46	SF #29 @TMA DEA-CUD-02-PL-004 Level 2-East-SFS 0/7	SF #16 @TMA DEA-CUD-06-PL-008 Level 6-West-SFS 7/7												
SF #56 @TMA DEA-CUD-10-PL-012 Level 10-South-SFS 0/7	CW #228 @TMA DEA-CUD-04-PL-006 Level 04-North-Curtainwall (Grid 07 to 11) 0/46	SF #32 @TMA DEA-CUD-01-PL-003 Level 1-East-SFS 7/7	SF #18 @TMA DEA-CUD-07-PL-009 Level 7-West-SFS 7/7												
SF #59 @TMA DEA-CUD-03-PL-005 Level 3-West-SFS 0/7	CW #229 @TMA DEA-CUD-04-PL-006 Level 04-North-Curtainwall (Grid 01 to 03) 0/46	SF #33 @TMA DEA-CUD-01-PL-003 Level 1-North-SFS 0/7	SF #24 @TMA DEA-CUD-09-PL-011 Level 9-West-SFS 0/7												
SF #60 @TMA DEA-CUD-03-PL-005 Level 3-North West-SFS 0/7	CW #230 @TMA DEA-CUD-05-PL-007 Level 05-South-Curtainwall (Grid 01 to 04) 0/46	SF #37 @TMA DEA-CUD-04-PL-006 Level 4-North West-SFS 7/7	SF #25 @TMA DEA-CUD-02-PL-004 Level 2-West-SFS 7/7												
SF #61 @TMA DEA-CUD-03-PL-005 Level 3-East-SFS 0/7	CW #231 @TMA DEA-CUD-05-PL-007 Level 05-South-Curtainwall (Grid 04 to 06) 0/46	SF #38 @TMA DEA-CUD-04-PL-006 Level 4-East-SFS 0/7	SF #28 @TMA DEA-CUD-02-PL-004 Level 2-South-SFS 7/7												
SF #62 @TMA DEA-CUD-03-PL-005 Level 3-South-SFS 0/7	CW #232 @TMA DEA-CUD-05-PL-007 Level 05-South-Curtainwall (Grid 06 to 10) 0/46	SF #40 @TMA DEA-CUD-04-PL-006 Level 4-South-SFS 0/7	SF #30 @TMA DEA-CUD-01-PL-003 Level 1-West-SFS 7/7												
SF #79 @TMA DEA-CUD-08-PL-010 Level 8-North West-SFS 0/7	CW #233 @TMA DEA-CUD-05-PL-007 Level 05-South-Curtainwall (Grid 10 to 11) 0/46	SF #41 @TMA DEA-CUD-05-PL-007 Level 5-North West-SFS 7/7	SF #31 @TMA DEA-CUD-01-PL-003 Level 1-South-SFS 7/7												
SF #80 @TMA DEA-CUD-08-PL-010 Level 8-East-SFS 0/7	CW #234 @TMA DEA-CUD-05-PL-007 Level 05-North-Curtainwall (Grid 07 to 11) 0/46	SF #42 @TMA DEA-CUD-05-PL-007 Level 5-East-SFS 0/7	SF #34 @TMA DEA-CUD-01-PL-003 Level 1-North West-SFS 0/7												
SF #81 @TMA DEA-CUD-08-PL-010 Level 8-South-SFS 0/7	CW #235 @TMA DEA-CUD-05-PL-007 Level 05-North-Curtainwall (Grid 01 to 03) 0/46	SF #43 @TMA DEA-CUD-05-PL-007 Level 5-South-SFS 0/7	SF #35 @TMA DEA-CUD-0M-PL-002 Level 1M-North-SFS 0/7												
SF #90 @TMA DEA-CUD-11-PL-013 Level 11-West-SFS 0/7	CW #236 @TMA DEA-CUD-06-PL-008 Level 06-South-Curtainwall (Grid 01 to 04) 0/46	SF #44 @TMA DEA-CUD-06-PL-008 Level 6-North West-SFS 0/7	SF #36 @TMA DEA-CUD-0M-PL-002 Level 1M-East-SFS 0/7												
SF #91 @TMA DEA-CUD-11-PL-013 Level 11-North West-SFS 0/7	CW #237 @TMA DEA-CUD-06-PL-008 Level 06-South-Curtainwall (Grid 04 to 06) 0/46	SF #45 @TMA DEA-CUD-06-PL-008 Level 6-East-SFS 0/7	SF #39 @TMA DEA-CUD-10-PL-012 Level 10-West-SFS 0/7												
SF #92 @TMA DEA-CUD-11-PL-013 Level 11-East-SFS 0/7	CW #238 @TMA DEA-CUD-06-PL-008 Level 06-South-Curtainwall (Grid 06 to 10) 0/46	SF #46 @TMA DEA-CUD-06-PL-008 Level 6-South-SFS 0/7	WB #12 @TMA DEA-CUD-04-PL-006 Level 4-West-Weather Board 11/12												
SF #93 @TMA DEA-CUD-11-PL-013 Level 11-South-SFS 0/7	CW #239 @TMA DEA-CUD-06-PL-008 Level 06-South-Curtainwall (Grid 10 to 11) 0/46	SF #47 @TMA DEA-CUD-07-PL-009 Level 7-North West-SFS 0/7	WB #14 @TMA DEA-CUD-05-PL-007 Level 5-West-Weather Board 13/14												
SF #102 @TMA DEA-CUD-12-PL-014 Level 12-West-SFS 1/7	CW #240 @TMA DEA-CUD-06-PL-008 Level 06-North-Curtainwall (Grid 07 to 11) 0/46	SF #48 @TMA DEA-CUD-07-PL-009 Level 7-East-SFS 0/7	WB #63 @TMA DEA-CUD-04-PL-006 Level 4-North West-Weather Board 12/12												
SF #103 @TMA DEA-CUD-12-PL-014 Level 12-North West-SFS 0/7	CW #241 @TMA DEA-CUD-06-PL-008 Level 06-North-Curtainwall (Grid 01 to 03) 0/46	SF #49 @TMA DEA-CUD-07-PL-009 Level 7-South-SFS 0/7	WB #171 @TMA DEA-CUD-03-PL-005 Level 3-West-Weather Board 0/12												
SF #104 @TMA DEA-CUD-12-PL-014 Level 12-East-SFS 0/7	CW #242 @TMA DEA-CUD-07-PL-009 Level 07-South-Curtainwall (Grid 01 to 04) 0/46	SF #51 @TMA DEA-CUD-09-PL-011 Level 9-North West-SFS 0/7	WB #172 @TMA DEA-CUD-03-PL-005 Level 3-North West-Weather Board 0/12												

7.3. Checksheets:

Each task related to facade installation is categorized and linked directly to detailed plans within Fieldwire. This organization enables installers to access and complete relevant checksheets directly associated with their specific tasks.

Installers are required to fill out these checksheets as they progress through their installation duties. The system allows for real-time updates, where installers can also upload pictures of the installation progress. This feature is crucial for maintaining visual records and assists in the immediate assessment and verification of the work done on site.



The screenshot displays the Fieldwire interface for a facade installation project. On the left, a detailed architectural plan of a building facade is shown, with various components labeled. In the center, a list of tasks is displayed, each with a status icon and a description. On the right, a detailed checklist for the task 'Level 4-East-Weather Board' is shown, including a list of items to be checked and a section for messages.

Tasks List:

- #65 | [TMA] | DEA-CUD-04-PL-006 | Level 4-East-Weather Board
- #66 | [TMA] | DEA-CUD-04-PL-007 | Level 4-South-Weather Board
- #224 | [TMA] | DEA-CUD-04-PL-008 | Level 04-South-Curtainwall (Grid 01...)
- #225 | [TMA] | DEA-CUD-04-PL-009 | Level 04-South-Curtainwall (Grid 04...)
- #226 | [TMA] | DEA-CUD-04-PL-010 | Level 04-South-Curtainwall (Grid 06...)
- #227 | [TMA] | DEA-CUD-04-PL-011 | Level 04-South-Curtainwall (Grid 10...)
- #228 | [TMA] | DEA-CUD-04-PL-012 | Level 04-North-Curtainwall (Grid 0...)
- #229 | [TMA] | DEA-CUD-04-PL-013 | Level 04-North-Curtainwall (Grid 0...)
- #187 | [TMA] | DEA-CUD-04-PL-014 | Level 4-West-Window Installation
- #190 | [TMA] | DEA-CUD-04-PL-015 | Level 4-East-Window Installation
- #37 | [TMA] | DEA-CUD-04-PL-016 | Level 4-North-West-SFS
- #38 | [TMA] | DEA-CUD-04-PL-017 | Level 4-East-SFS
- #40 | [TMA] | DEA-CUD-04-PL-018 | Level 4-South-SFS
- #11 | [TMA] | DEA-CUD-04-PL-019 | Level 4-West-SFS
- #12 | [TMA] | DEA-CUD-04-PL-020 | Level 4-West-Weather Board
- #63 | [TMA] | DEA-CUD-04-PL-021 | Level 4-North-West-Weather Board

Checklist for #65 | [TMA] | DEA-CUD-04-PL-006 | Level 4-East-Weather Board:

- ☐ Delivered to Site (@HAL)
- ☐ Stored flat in dry, level surface and protected (@HAL)
- ☐ Stacks should not exceed 7 pallets (@HAL)
- ☐ Drawing for Siniat layout (@HAL)
- ☐ Install boards According to Drawings (@HAL)
- ☐ Fix to studs at a maximum 300mm centres. Use Siniat Wet Area Self Drilling screws for steel studs or combinations of steel studs up to 3mm thick (total). (@HAL)
- ☐ OBEX 500 FR should be used to seal deflection or movement joints created in the board layer. (@HAL)
- ☐ Apply sufficient sealant to create a sealant joint of 2mm when the next board is loosely butted (@HAL)
- ☐ Any gaps in the sealant should be filled with additional sealant (@HAL)
- ☐ Are screws flush fitted and flat to the board. IF not Sealing with a dab of sealant will prevent issues where a screw is not perfectly flat (@HAL)
- ☐ Repair Damage but no more than allowed. (@HAL)
- ☐ Fill CS-02 Checksheet (@HAL)

Task Attributes:

- Status: Design Compl...
- Category: Weather Board
- Assignee: Tudor
- Location: Floor 4
- Start date: --
- End date: --
- Manpower: --
- Cost: --
- Tags: siniat_weather_b...
- Watchers: BBR, HAL, RAL, T...
- Elevation: --

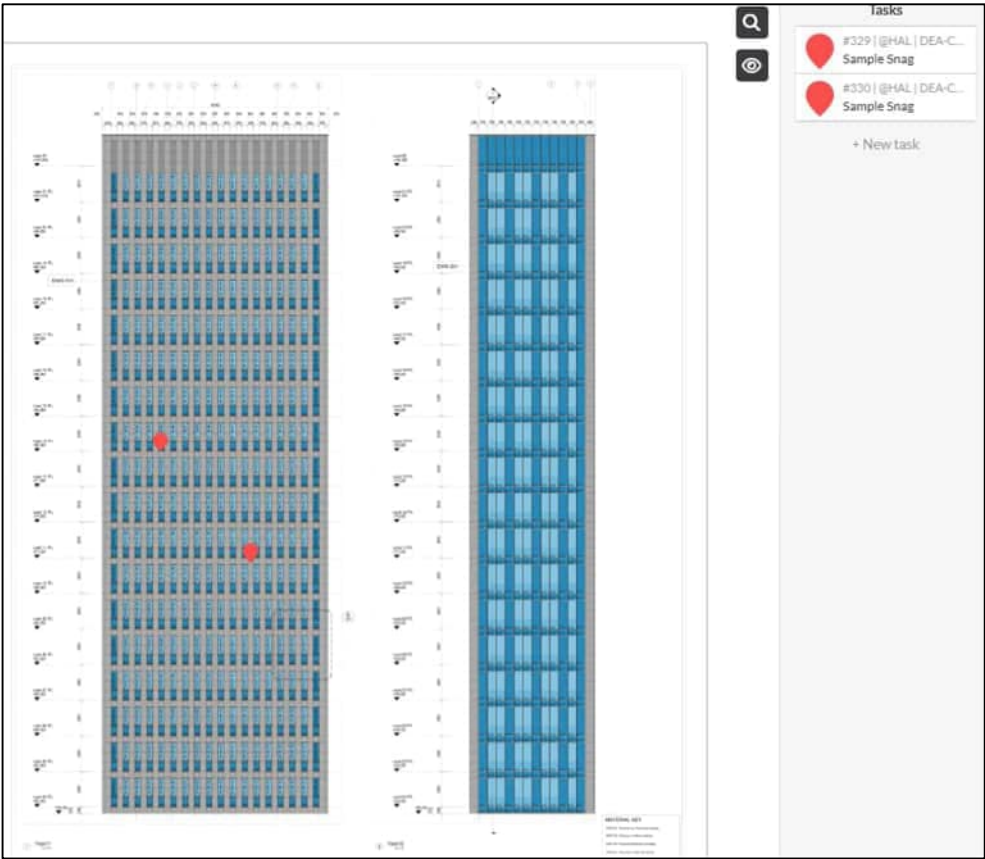
These online checksheets serve as vital tools for ensuring that all installation activities meet the stringent quality standards set for the project. They also facilitate immediate corrective actions by allowing issues to be flagged and addressed promptly. The integration of checksheets with the project plans ensures that all installation activities are well-documented and traceable, supporting a

systematic approach to quality assurance and control. This method significantly enhances the efficiency of the installation process and ensures compliance with all specified quality and safety standards, paving the way for smooth handovers of facade areas once all snags are addressed and approved by the project team.

7.4. Snagging Process:

After the installation of each façade element, snags are identified and tagged directly onto elevation drawings within Fieldwire. This visual tagging system provides precise location-based tracking of issues, ensuring no detail is overlooked.

Once the subcontractor resolves the snags, the project team reviews and accepts the corrections. This step ensures that the quality standards outlined in the project plan are met before proceeding to the next phase.



CS-03 Window Installation #1 - CS-03-L04		
Setting Out	☐	- /
Line and Level	☐	- / ▶
Structural opening dimension checked for maximum 20mm packing	☐	- /
Prepare window with membrane. Use a termination bar to restrain the membrane. Apply access sealant adhesive over fixings.	☐	- /
Window installation plumb	☐	- /
Position in and out checked from Grid	☐	- /
Fixings into SF5 and Bracket Stainless steel	☐	- /
Frame is clean prior to glazing	☐	- /
Glazing	- ▶	
Opening Lights	- ▶	
Compriband Packing at movement joints	☐	- /
Screw fixing into SF5 not be overdrilled	☐	- /
Packing placed as per manual	☐	- /
EPAM membrane applied around the window onto the external board. Minimum 60mm overlap	☐	- /
Mastic around the windows at the interface cladding	☐	- /
Sills and Flashings Installed	☐	
Damage	☐	
Protection	☐	
Windows clean and tidy	☐	
Update status and close		

7.5. Handover Preparation:

Upon resolving all snags in a particular façade area, the system marks the area as ready for handover. This systematic approach guarantees compliance with quality requirements and facilitates a smooth transition to the client.

Appendix 10 Installation Checksheets

Included:

SFS
Weather Board
Windows
Curtainwall

#125 - Level 15-South-SFS

Design Complete | Tudor Madan | SFS
Plan: DEA-CUD-15-PL-017 - Plan Level 15 | Location: Tower > Floors > Floor 15
Tags: #sfs_installation_checks
Created 25-11-2024



Forms

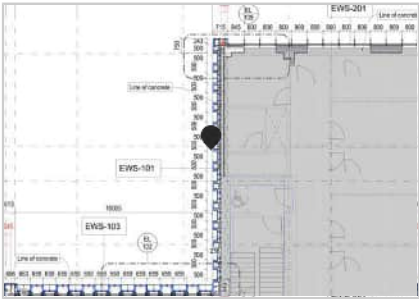
[CS-01 SFS Installation #14 | Draft | CS-01-L15](#)

Checklist

- ☐ Concrete Checks Complete (@HAL)
- ☐ Grid Line Setout (@HAL)
- ☐ Install Head track (@HAL)
- ☐ Install studs in position (@HAL)
- ☐ Install Head track noggings (@HAL)
- ☐ Create Window openings (@HAL)
- ☐ Install base track (@HAL)

#51 - Level 9-North West-SFS

Design Complete | Tudor Madan | SFS
Plan: DEA-CUD-09-PL-011 - Plan Level 09 | Location: Tower > Floors > Floor 4
Tags: #sfs_installation_checks
Created 25-11-2024



Forms

[CS-01 SFS Installation #5 | Draft | CS-01-L09](#)

Checklist

- ☐ Concrete Checks Complete (@HAL)
- ☐ Grid Line Setout (@HAL)
- ☐ Install base track (@HAL)
- ☐ Install Head track (@HAL)
- ☐ Install studs in position (@HAL)
- ☐ Install Head track noggings (@HAL)
- ☐ Create Window openings (@HAL)

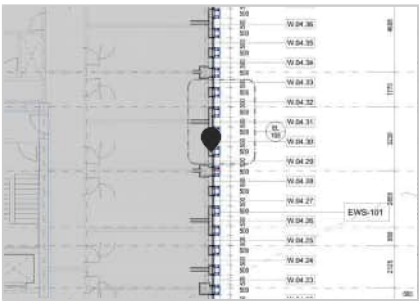
#188 - Level 2-North-SFS

Design Complete | Tudor Madan | SFS
Plan: DEA-CUD-02-PL-004 - Plan Level 02 | Location: Tower > Floors > Floor 4
Tags: #sfs_installation_checks
Created 10-12-2024

Checklist

● #38 - Level 4-East-SFS

Design Complete | Tudor Madan | SFS
Plan: DEA-CUD-04-PL-006 - Plan Level 04 | Location: Tower > Floors > Floor 4
Tags: #sfs_installation_checks
Created 22-11-2024



Forms

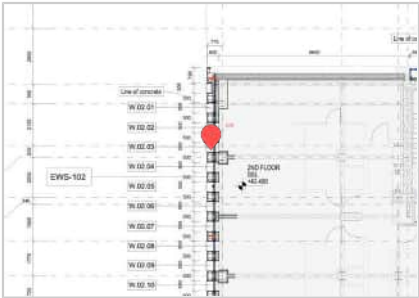
[CS-01 SFS Installation #1 | Draft | CS-01-L04](#)

Checklist

- ☐ Concrete Checks Complete (@HAL)
- ☐ Grid Line Setout (@HAL)
- ☐ Install base track (@HAL)
- ☐ Install Head track (@HAL)
- ☐ Install studs in position (@HAL)
- ☐ Install Head track noggings (@HAL)
- ☐ Create Window openings (@HAL)

● #25 - Level 2-West-SFS

Installation in Progress | Tudor Madan | SFS
Plan: DEA-CUD-02-PL-004 - Plan Level 02 | Location: Tower > Floors > Floor 2
Tags: #sfs_installation_checks
Created 21-11-2024



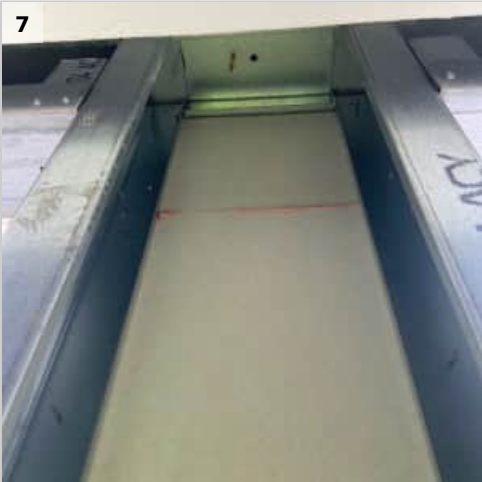
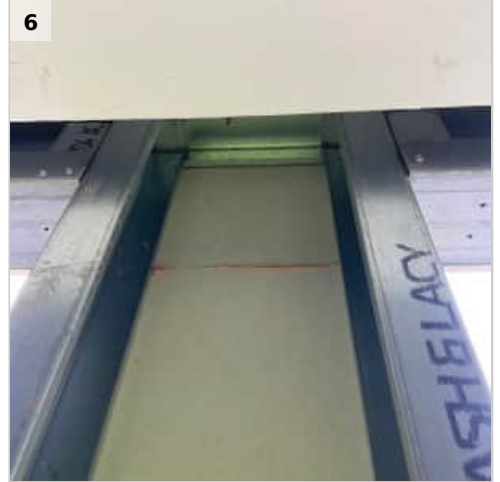
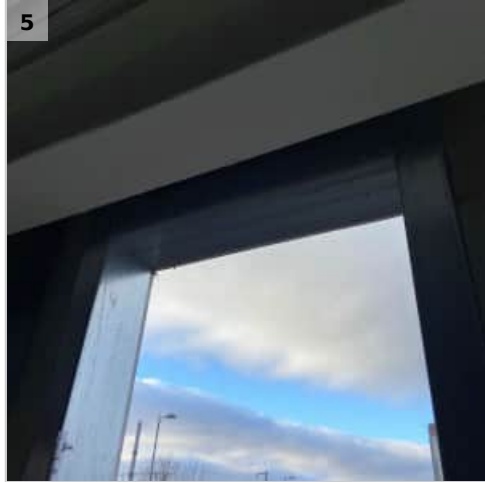
Forms

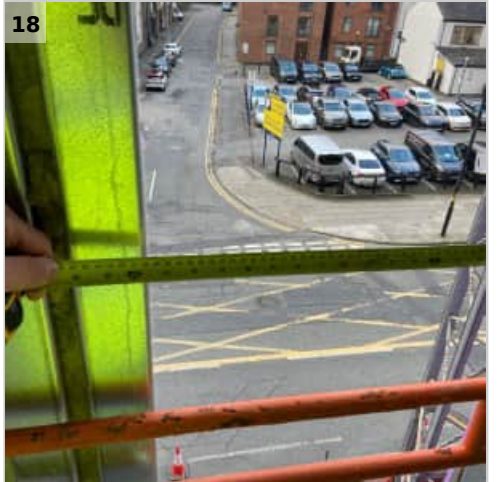
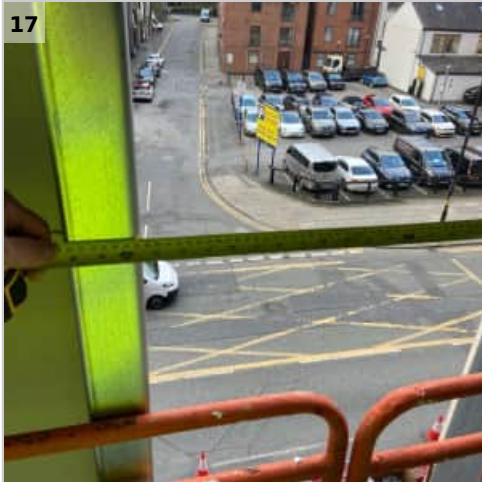
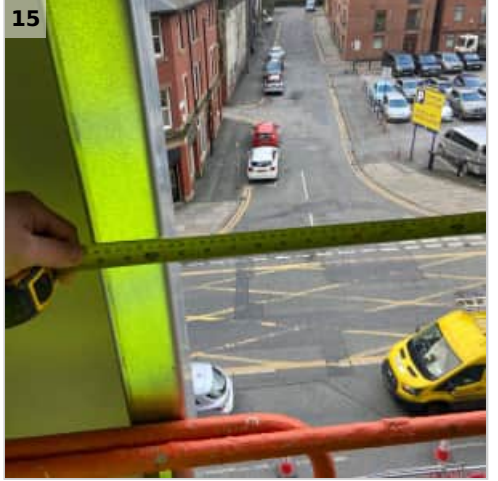
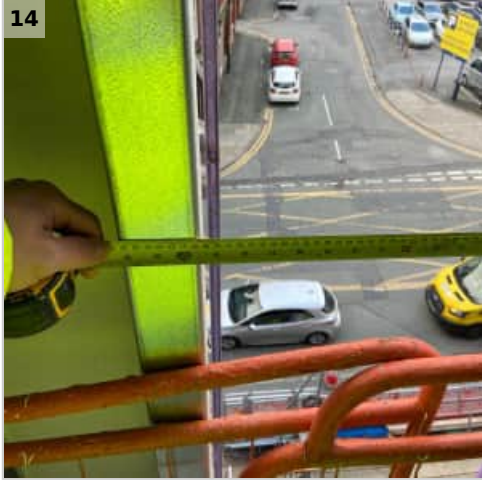
[CS-01 SFS Installation #6 | Draft | CS-01-L02](#)

Checklist

- ☒ Concrete Checks Complete (@TMA - 10-12-2024)
- ☒ Grid Line Setout (@TMA - 10-12-2024)
- ☒ Install base track (@TMA - 10-12-2024)
- ☒ Install Head track (@TMA - 10-12-2024)
- ☒ Install studs in position (@TMA - 10-12-2024)
- ☒ Install Head track noggings (@TMA - 10-12-2024)
- ☒ Create Window openings (@TMA - 10-12-2024)

Photos

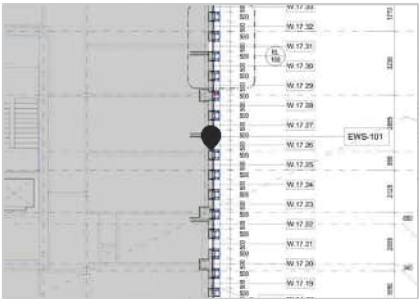




Weather Board

#144 - Level 17-East-Weather Board

Design Complete | Tudor Madan | Weather Board
Plan: DEA-CUD-17-PL-019 - Plan Level 17 | Location: Tower > Floors > Floor 17
Tags: #siniat_weather_board
Created 25-11-2024



Forms

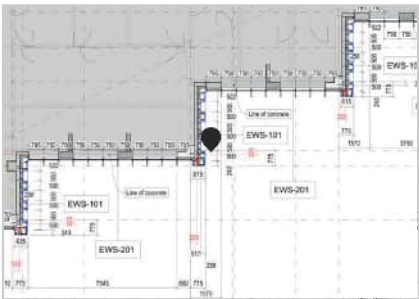
CS-02 External Weather Board & Seals Install #14 | Draft | CS-02-L17

Checklist

- ☐ OBEX 500 FR should be used to seal deflection or movement joints created in the board layer. (@HAL)
- ☐ Delivered to Site (@HAL)
- ☐ Stored flat in dry, level surface and protected (@HAL)
- ☐ Stacks should not exceed 7 pallets (@HAL)
- ☐ Drawing for Siniat layout (@HAL)
- ☐ Install boards horizontally in a staggered 'brick bond' Pattern (@HAL)
- ☐ Joints butted to create 2mm filled with Siniat Fire Rated Silicone Sealant. (@HAL)
- ☐ Locate screws at least 13mm and no more than 20mm from board edges (@HAL)
- ☐ Screws penetrate at least 10mm into the substrate (@HAL)
- ☐ Fix to studs at a maximum 300mm centres. Use Siniat Wet Area Self Drilling screws for steel studs or combinations of steel studs up to 3mm thick (total). (@HAL)
- ☐ Apply sufficient sealant to create a sealant joint of 2mm when the next board is loosely butted (@HAL)
- ☐ Any gaps in the sealant should be filled with additional sealant (@HAL)
- ☐ Are screws flush fitted and flat to the board. IF not Sealing with a dab of sealant will prevent issues where a screw is not perfectly flat (@HAL)
- ☐ Rapair Damage but no more than allowed. (@HAL)

#75 - Level 7-South-Weather Board

Design Complete | Tudor Madan | Weather Board
Plan: DEA-CUD-07-PL-009 - Plan Level 07 | Location: Tower > Floors > Floor 7
Tags: #siniat_weather_board
Created 25-11-2024



Forms

CS-02 External Weather Board & Seals Install #2 | Draft | CS-02-L07

Checklist

- ☐ OBEX 500 FR should be used to seal deflection or movement joints created in the board layer. (@HAL)
- ☐ Delivered to Site (@HAL)
- ☐ Stored flat in dry, level surface and protected (@HAL)
- ☐ Drawing for Siniat layout (@HAL)
- ☐ Stacks should not exceed 7 pallets (@HAL)
- ☐ Install boards horizontally in a staggered 'brick bond' Pattern (@HAL)
- ☐ Joints butted to create 2mm filled with Siniat Fire Rated Silicone Sealant. (@HAL)

● **#31 - Level 1-South-SFS**

Installation in Progress | Tudor Madan | SFS
Plan: DEA-CUD-01-PL-003 - Plan level 01 | Location: Tower > Floors > Floor 1
Tags: #sfs_installation_checks
Created 21-11-2024



Forms

CS-01 SFS Installation #22 | Draft | CS-01-L01

Checklist

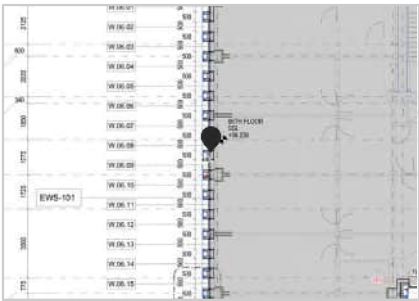
- ✓ Concrete Checks Complete (@TMA - 10-12-2024)
- ✓ Grid Line Setout (@TMA - 10-12-2024)
- ✓ Install base track (@TMA - 10-12-2024)
- ✓ Install Head track (@TMA - 10-12-2024)
- ✓ Install studs in position (@TMA - 10-12-2024)
- ✓ Install Head track noggings (@TMA - 10-12-2024)
- ✓ Create Window openings (@TMA - 10-12-2024)

Photos



● #17 - Level 6-West-Weather Board

Design Complete | Tudor Madan | Weather Board
Plan: DEA-CUD-06-PL-008 - Plan Level 06 | Location: Tower > Floors > Floor 6
Tags: #siniat_weather_board
Created 09-10-2024



Forms

CS-02 External Weather Board & Seals Install #3 | Draft | CS-02-L06

Checklist

- ✓ Delivered to Site (@TMA - 18-10-2024)
- ✓ Stored flat in dry, level surface and protected (@TMA - 18-10-2024)
- ✓ Stacks should not exceed 7 pallets (@TMA - 21-11-2024)
- ✓ Drawing for Siniat layout (@TMA - 21-11-2024)
- ✓ Install boards horizontally in a staggered 'brick bond' Pattern (@TMA - 21-11-2024)
- ✓ Joints butted to create 2mm filled with Siniat Fire Rated Silicone Sealant. (@TMA - 21-11-2024)
- ✓ Locate screws at least 13mm and no more than 20mm from board edges (@TMA - 21-11-2024)
- ✓ Screws penetrate at least 10mm into the substrate (@TMA - 21-11-2024)
- ✓ Fix to studs at a maximum 300mm centres. Use Siniat Wet Area Self Drilling screws for steel studs or combinations of steel studs up to 3mm thick (total). (@TMA - 21-11-2024)
- ☐ OBEX 500 FR should be used to seal deflection or movement joints created in the board layer. (@HAL)
- ✓ Apply sufficient sealant to create a sealant joint of 2mm when the next board is loosely butted (@TMA - 21-11-2024)
- ✓ Any gaps in the sealant should be filled with additional sealant (@TMA - 21-11-2024)
- ✓ Are screws flush fitted and flat to the board. IF not Sealing with a dab of sealant will prevent issues where a screw is not perfectly flat (@TMA - 21-11-2024)
- ✓ Repair Damage but no more than allowed. (@TMA - 21-11-2024)

Photos



4



5



6



7



8



9



10



Forms

CS-02 External Weather Board & Seals Install #7 | Draft | CS-02-L10
All Tasks (Summary)

Windows

#192 - Level 5-East-Window Installation

Ordered | Tudor Madan | Windows
Plan: DEA-CUD-05-PL-007 - Plan Level 05
Tags: #window_installation_check_list
Created 17-12-2024



Forms

[CS-03 Window Installation #2](#) | [Draft](#) | [CS-03-L05](#)

Checklist

- ☐ Setting Out (@HAL)
- ☐ Line and Level (@HAL)
- ☐ Structural opening dimension checked for maximum 20mm packing (@HAL)
- ☐ Prepare window with membrane. Use a termination bar to restrain the membrane. Apply access sealant adhesive over fixings. (@HAL)
- ☐ Window installation plumb (@HAL)
- ☐ Position in and out checked from Grid (@HAL)
- ☐ Fixings into SFS and Bracket Stainless steel (@HAL)
- ☐ Frame is clean prior to glazing (@HAL)
- ☐ Glazing (Not Damaged, Clean, No Fogging, Sealant) (@HAL)
- ☐ Opening Lights (Operating, Deflection) (@HAL)
- ☐ Compriband Packing at movement joints (@HAL)
- ☐ Screw fixing into SFS not be overdrilled (@HAL)
- ☐ Packing placed as per manual (@HAL)
- ☐ EPAM membrane applied around the window onto the external board. Minimum 60mm overlap (@HAL)
- ☐ Mastic around the windows at the interface cladding. (@HAL)
- ☐ Sills and Flashings Installed (@HAL)
- ☐ Damage (@HAL)
- ☐ Protection (@HAL)
- ☐ Windows clean and tidy (@HAL)

EWS201 Curtainwalling

● #256 - Level 09-South-Curtainwall (Grid 06 to 10)

Ordered | Tudor Madan | EWS201 Curtainwalling
Plan: DEA-CUD-09-PL-011 - Plan Level 09
Tags: #curtainwall_installation_check_list
Created 24-12-2024



Forms

CS-04 Curtainwall Installation #6 | Draft | CS-04-L09

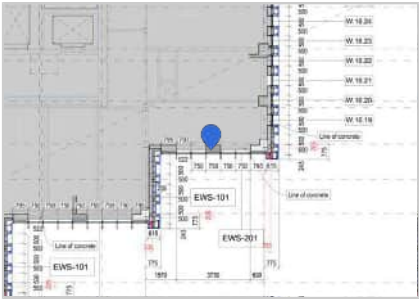
Checklist

- ☐ STICK CW - EWS 201/203 - HOLD POINT NO.1 - Pre-Installation (@HAL)
- ☐ Area handed over from main contractor (@HAL)
- ☐ Area clear of debris/materials etc (@HAL)
- ☐ Structure complete (@HAL)
- ☐ Gridline, Datums and control points handed over (@HAL)
- ☐ Steel Holes for Curtainwall Brackets surveyed and report issued (@HAL)
- ☐ Upstand level / Underside of steel deck within tolerance (@HAL)
- ☐ STICK CW - EWS 201/203 - HOLD POINT NO.2 - Installation of Bracketry & Curtain Wall Grid (@HAL)
- ☐ Check position of Steel holes via survey. Check against Builderswork Drawings (@HAL)
- ☐ Check concrete surface surrounding cast in channel is with tolerance (@HAL)
- ☐ Are shims required? Check with Engineering Dept. (@HAL)
- ☐ Is grout required? Check with Engineering Dept. (@HAL)
- ☐ Check channels are cleared out and free from debris/ concrete over run (@HAL)
- ☐ Check position of ground floor concrete upstand edge to ensure it is within tolerances (@HAL)
- ☐ Check position of intermediate floor slab edge to ensure it is within tolerances (@HAL)
- ☐ Check correct bracket identified and installed (@HAL)
- ☐ Bolts tightened, Loctite applied and sprayed (@HAL)
- ☐ Check washers are correctly engaged with the bracket (@HAL)
- ☐ Check bracket is free from damage. Repair Galvanisation if damaged with 2 coats of Zinga spray (@HAL)
- ☐ Check brackets fixed to secondary steel with specified S/S bolts. (@HAL)
- ☐ Check bolts are torqued as specified by Engineer and sprayed. (@HAL)
- ☐ Check thermal packer is applied between aluminium and steel bracket (@HAL)
- ☐ 60250 STICK CW - EWS 201/203 - HOLD POINT NO.3 - Glazing (@HAL)
- ☐ Check Mullion / Transom Seals (@HAL)
- ☐ Gaskets installed as per manufacturers instructions and sealed at intersections (@HAL)
- ☐ Check Linear gasket fit and gaskets are free of debris (@HAL)
- ☐ Correct Glass supports and packers are installed. Packers to be tidy and support the outer glass pane (@HAL)
- ☐ Inspect material condition prior to installation; glass edge condition/shelling (@HAL)
- ☐ Glass orientation check, check kitemark position (@HAL)
- ☐ Glass type installed as specified on site location drawings (@HAL)
- ☐ Correct toggles and spacings, toggle screws torqued to manufacturers instructions (@HAL)
- ☐ Glass free of any dirt and debris (@HAL)
- ☐ Identify correct pressure plates (@HAL)
- ☐ Pressure plate screws torqued to manufacturers instructions (@HAL)
- ☐ Spacer bar alignment to be checked (@HAL)
- ☐ Install caps as per location drawings (@HAL)
- ☐ 60250 STICK CW - EWS 201/203 - HOLD POINT NO.4 - Installation of EPDM, Insulation, Fire Barrier, Internal & External Pressings (@HAL)
- ☐ Surface to be clean and free of debris (@HAL)

- ☐ EPDM bonded neatly with overlaps as per manufacturers recommendations (@HAL)
- ☐ Horizontal Firestop installed as per manufacturers recommendations at slab levels with 2no SP Fixings per 1m, spacing at 250/500/250 (@HAL)
- ☐ Insulation is installed as per drawings (@HAL)
- ☐ Internal VCL installed as per drawings (@HAL)
- ☐ Internal pressings sealed as per drawings (@HAL)
- ☐ Check the size of the cill/jamb/head flashing is correct (@HAL)
- ☐ Check the quality of the cill/jamb/head flashing for any imperfections / scratches (@HAL)
- ☐ Check that the cill/jamb/head flashing has protection film on it (@HAL)

● **#301 - Level 16-South-Curtainwall (Grid 10 to 11)**

Ordered | Tudor Madan | EWS201 Curtainwalling
 Plan: DEA-CUD-16-PL-018 - Plan Level 16
 Tags: #curtainwall_installation_check_list
 Created 24-12-2024



Forms

CS-04 Curtainwall Installation #13 | Draft | CS-04-L16

Checklist

- ☐ STICK CW - EWS 201/203 - HOLD POINT NO.1 - Pre-Installation (@HAL)
- ☐ Area handed over from main contractor (@HAL)
- ☐ Area clear of debris/materials etc (@HAL)
- ☐ Structure complete (@HAL)
- ☐ Gridline, Datums and control points handed over (@HAL)
- ☐ Steel Holes for Curtainwall Brackets surveyed and report issued (@HAL)
- ☐ Upstand level / Underside of steel deck within tolerance (@HAL)
- ☐ STICK CW - EWS 201/203 - HOLD POINT NO.2 - Installation of Bracketry & Curtain Wall Grid (@HAL)
- ☐ Check position of Steel holes via survey. Check against Builderswork Drawings (@HAL)
- ☐ Check concrete surface surrounding cast in channel is with tolerance (@HAL)
- ☐ Are shims required? Check with Engineering Dept. (@HAL)
- ☐ Is grout required? Check with Engineering Dept. (@HAL)
- ☐ Check channels are cleared out and free from debris/ concrete over run (@HAL)
- ☐ Check position of ground floor concrete upstand edge to ensure it is within tolerances (@HAL)
- ☐ Check position of intermediate floor slab edge to ensure it is within tolerances (@HAL)
- ☐ Check correct bracket identified and installed (@HAL)
- ☐ Bolts tightened, Loctite applied and sprayed (@HAL)
- ☐ Check washers are correctly engaged with the bracket (@HAL)
- ☐ Check bracket is free from damage. Repair Galvanisation if damaged with 2 coats of Zinga spray (@HAL)
- ☐ Check brackets fixed to secondary steel with specified S/S bolts. (@HAL)
- ☐ Check bolts are torqued as specified by Engineer and sprayed. (@HAL)
- ☐ Check thermal packer is applied between aluminium and steel bracket (@HAL)
- ☐ 60250 STICK CW - EWS 201/203 - HOLD POINT NO.3 - Glazing (@HAL)
- ☐ Check Mullion / Transom Seals (@HAL)
- ☐ Gaskets installed as per manufacturers instructions and sealed at intersections (@HAL)
- ☐ Check Linear gasket fit and gaskets are free of debris (@HAL)
- ☐ Correct Glass supports and packers are installed. Packers to be tidy and support the outer glass pane (@HAL)
- ☐ Inspect material condition prior to installation; glass edge condition/shelling (@HAL)
- ☐ Glass orientation check, check kitemark position (@HAL)

Appendix 9 Project Forms

Project Quality Plan (Architectural Metalwork)

Standard Forms and Letters

This section includes standard form and letters to be used on the project

Note: These may be amended to be project specific, but the content should conform to the AF&F template set out

PMID00310	Handover Certificate
PMID00320	Letter – Completion/Handover of Section works
PMID00330	Site Calibration Record Card
PMID00340	Design Change Request
PMID00360	Confirmation of a Verbal Instruction
PMID00370	Damage Report Form
PMID00380	Daywork Sheet
QASD00050	CAR Form
QASD00065	HS&E CAR Form
PROD00040	Reject Item
PURD00020	Material Requisition
HSED00110	Register of Toolbox Talk Attendance
HSED00120	Explanation of Method Statement
HSED00190	Task Specific Method Statement

Request for Handover/Inspection

Project:	Project No:
Request for Handover No:	Drawing No:
Location:	
Construction Activity: Inspection & Test Plan No: We hereby give notice that the construction activity will be reached and ready for your inspection We wish to execute the next operation, namely	
	Time:
	Date:
	Time:
	Date:
Signed: For and on behalf of Dane Architectural Systems	Time: Date:
Appropriate quality record sheets have been completed in accordance with the handover and the activity is: Signed: For and on behalf of the Client	*Passed / Withheld (* Delete as applicable) Time: Date:
Reasons for next operation being withheld (if applicable)	

Our Ref:

For the attention of Mr

Date:

Re: Notification of Handover of Works

Dear Sirs

Re:

We write to advise you that the following section of work have been completed in accordance with the relevant Contract Drawings and Specifications

Accordingly, we enclose QA Checklist/Handover Sheet No's and formally handover those sections of works.

Yours faithfully

CALIBRATION RECORD CARD

[illegible]

DESIGN CHANGE REQUEST SHEET

	No:				
CONTRACT:					
LOCATION:					
Detail of Change:					
Drawing No.:					
Reason for Change:					
Request raised by: Date:					
Design Dept Comment:					
Sign and Date as Appropriate					
	Structural Engineer	Operations Director	Technical Director	Main Contractor	Architect
APPROVE					
REJECT					

CONFIRMATION OF VERBAL INSTRUCTION

	CVI No:
CONTRACT NAME:	
CONTRACT No:	
DATE:	
I / We confirm your verbal instructions regarding the following:-	
This confirmation will be deemed to be an instruction under the terms of the contract after expiry of 7 days from date of issue.	
Copied to: QS Site Main Contractor	

DAMAGE REPORT FORM

		DR No:
CONTRACT:		
Date Damage First Observed:		
Area/Location:		
Date & Time First Witnessed:		
Witnessed by:		
Damage Caused:		
Evidence:		
Other Witnesses:		
Damage Caused by (If Known)		
Date Form Issued & to Whom		

CONTRACTOR

Contract No.

DESCRIPTION OF WORKS

L A B O U R	Name	Trade	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Total Hours	Hourly Rate	Amount £
	Travelling Time											
						Cost of Labour £						£
						Add as Contract %						

P L A N T	Description	Ref.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Unit	Rate	£
						Cost of Plant £						
						Add/Deduct as Contract %						

M A T E R I A L S	Description	Quantity	Unit	Rate Per Unit	£
		Cost of materials			
	Add as Contract				%

ANY OTHER CHARGES

This is an interim daywork sheet chargeable against
the final above order

Contractor _____

Date _____

FOR OFFICIAL USE ONLY

The items above are certified correct subject to examination by the
quantity surveyor.

Timekeeper _____ Date _____

Resident engineer/ _____ Date _____

Clerk of works _____

TOTAL £

Corrective Action Report

When Dane issue a CAR we require an initial response within 7 working days, and the fully completed report along with root cause identification and corrective and preventative actions to be returned to the QA & HSE Manager within 28 days of issue					
IFS CAR Ref No					
Type of CAR		☐ Internal ☐ Supplier ☐ Sub Cont ☐ Main Cont ☐ Customer			
CAR Reference		0087-056			
Supplier/ Sub Cont/ Main Cont/ Dept					
Date					
Part No					
Description					
Quantity					
Shop Order					
Purchase Order					
Reported Fault					
Reported By					
Implications					
Action Required		☐ Return Complete Batch/ ☐ Return Defectives Only/ ☐ Accept on Concession/ ☐ Reject for Credit/ ☐ Rework at Site/ ☐ Rework at Dane/ ☐ Replacement Required ☐ Other (Specify)			
Fault Department		☐ Commercial/ ☐ Estimating/ ☐ DO Design/ ☐ DO Production/ ☐ DO Metalwork/ ☐ Works Facades/ ☐ Works Metalwork/ ☐ Site/ ☐ Supplier/ ☐ Dane Sub Contactor/ ☐ Main/Other Contractor			
Invest Actioned To				Date	
Root Cause					
Containment Action					
Corrective Action(s)		1. 2. 3. 4.			
Preventative Action					
Disposition		☐ Scrap/ ☐ Replace/ ☐ Replace FOC/ ☐ Concession/ ☐ Credit/ ☐ Rework at Works / ☐ Rework at Site / ☐ Rework at Supplier			
Purch Action	Rep PO				
	Due Date				
	Sup Disp	☐ Dane Scrap/ ☐ Supplier Collect/ ☐ Dane to Return			
	D Note	☐ No/ ☐ Yes (supplier name)			
	Inv Held	☐ No/ ☐ Yes			
Costs					
Circulation					
Completed by					
Date					
DANE QA APPROVAL					
Approved/Closed By					
Date					
LEGEND	Completed by person raising CAR	Assigned when entered into IFS	Completed by person investigating	Completed by Purchasing	Completed by Dane Quality

HS&E Corrective Action Report

CAR No			
Date			
Type	?		
Location	?		
Reported Fault			
Implications			
Reported by			
Project Manager			
Ref No (if any)			
DASL Action			
Investigating Dept	?	Date Issued	
Root Cause			
Containment Action			
Corrective Action(s)			
Preventative Action			
Disposition			
Cost			
Circulation			
Approved By			
Date			

CONTRACT:

CONTRACT No:

STILLAGE No:

REJECT ITEMS

SUPPLIER/CUSTOMER

ORDER NO:

MATERIAL/SECTION

QUANTITY

REJECTED BY

DATE:

REASON FOR REJECTION:

CORRECTIVE ACTION:

Explanation of Method Statement

Project:	
Method Statement Number & Title	
Package	

I confirm I have had an explanation of our Method Statement and understand the Safe Systems of Work employed.

Name (Print)	Sub Contractor	Signature	Date of Training

I confirm the above have had the detailed method statement incorporating the necessary safe systems work explained to them for the safe completion of our package.

Name:		Signature:	
--------------	--	-------------------	--

Task Specific Method Statement

AF&F

XXXX – Contract

Method Statement No: XXXX-XX-XXX
(Check Protocol with Document Controller)

MS Subject:

Status: Issued for Approval

Revision	Revision Detail	BY	CHK	Date

Further Comments

Task Specific Method Statement

1	Method Statement				
Main Contractor:				Contract No & Name:	
Method statement No.:					Revision no.:
MS Subject:					
2	Location of Work (include sketch plans where possible)				
Start Date:				Duration:	
Sequence Of Work (include programme if reference is made to it):					
Description of Work: (keep sentences short and to the point. Use sketches and drawings where possible)					
3	Name(s) of Supervisor(s) in Charge: (Valid CITB SSSTS certificate as minimum)			Number of Persons / Supervisor(s):	
Name any Subcontractors that are to be used:			Working to DASL MS?		MS issued & approved?
			Yes	No	Yes
Materials to be used:					
Equipment to be Used:			Yes	No	
Tower crane (others)					Lifting slings/chains
Mobile crane					Hand/Power tools (tethered @ height)
Scaffolding					Fume Extraction Equipment
Mast Climber					Dust Extraction Equipment
Cherry Picker					Pallet truck
Scissor Lift					Ladder/Hop ups
Mobile Tower/scaffold					Test Equipment
Cradle					Task Lighting
Mechanical hoist (others)					Other Mechanical plant (State below):
Vacuum lifters					

Task Specific Method Statement

4 Risk Assessment (must be attached) (Tick One - use ✓)					
Hazard Identification:	Yes	No	Hazard Identification:	Yes	No
Slips and Trips			COSHH		
Manual handling			Noise		
Tethering of Hand/Power tools			HAVS		
Working at Height			Dust		
Access Plant and Machinery			Fumes (welding/solvents)		
Fire			Lighting		
Fall of materials			3rd party (Contractors)		
Electrical			Environmental issues		
Handling of Glass			Excavations		
Lifting operations/machinery/equipment			Use of specialist tools		
Hot Works (welding/grinding)			Public Interface		
Who might be harmed?					
	Yes	No		Yes	No
Own Personnel			Office Staff or Visitors		
Other Contractors			Members of the Public		
Potential severity of injury/illness	First Aid	Reportable	Major	Disablement	Fatal
Tick Box					
Number of workers exposed to hazard	1	2 - 5	6 - 20	21 – 100	100+
Tick Box					
Probability of injury or illness	Happens Rarely	Happens Each Year	Happens On Most Jobs	Happens Regularly	Certain to Happen
Tick Box					
Overall Assessment of Risk Prior To The Implementation Of Control Measures (Tick One - use ✓)					
Low	Moderate		Substantial	High	

5 Proposed Control Measures to Reduce the Risks (use additional sheet if necessary)					
Permits Required:	Yes	No		Yes	No
Hot works			Other: (state below)		
Crane check list					
Electrical					
Confined space entry					
Further Control Measures / Security Requirements:					
Training Certificates Required:					
	Yes	No		Yes	No
MEWP (IPAF 3a/3b)			Vacuum Lifter (GGR/Other)		
MEWP (IPAF 1a)			Slinger Signaller (CPCS)		
MEWP (Other)			Appointed Person (CPCS)		
Mastclimber (IPAF M)			Others (Please state):		
FLT/Telehandler (CPCS/Other)					
Mobile Towers (PASMA)					
Abrasive Wheels					
Overall Assessment of Risk after the Implementation of Control Measures (Tick One - use ✓)					
Low	Moderate		Substantial	High	

Task Specific Method Statement

--	--	--	--

6 Personal Protective Equipment					
	Yes	No		Yes	No
Head protection			Hearing Protection		
Foot protection			Overalls		
Eye protection			Body Harness		
Hand protection			Hand/fore-arm protection for glazing		
High visibility clothing (jacket/vest)					
Face Respirator					

7 Emergency Arrangements	
First Aid Measures Required (First aid ratio of 1:10 as general rule)	Rescue / Security Measures Required
Rescue by whom?	Spillage control requirements

8 Any Amendments to Current Systems			
	Yes	No	Comments
Traffic routes			
Emergency arrangements			
Existing systems of work			
Other			

9 Contractor Information control	
Method statement written by	
Method Statement review date	
Who is authorised to update / amend this method statement, and under what circumstances.	

10 Contractor monitoring & compliance				
Who is accountable for monitoring compliance with the method statement?				
Will any test / sampling requirements impose compliance standards?		Yes		No
If Yes who will carry them out and with what equipment?				

Signature of Method Statement Author:	Print Name:	Date:

Task Specific Method Statement

[illegible]

Appendix 10 Terracotta Repair & Maintenance Guide

T I Tiles International Ltd
Suite 2, Enterprise House
Southbank Business Park
Strathkelvin Place
Kirkintilloch
G66 1XQ

Tel: 0330 094 5450
www.dynamicfacades.co.uk



t.i. dynamic facades

be different. be recognised. be innovative

17/01/2025

Remediation Criteria and rework

Deansgate Terracotta

To whom it may concern,

To establish clarity on the remediation repair criteria process and qualification of what can and cant be accepted through this, please find below the outlined criteria-:

Superficial repairs smaller than a 40mm diameter in size can be repaired only on the front face of the panel and where the structural integrity of the panel is not compromised, the rear of the panel is not repairable in any instance

Where a chip is 6mm diameter or less this would be on site touch up if required and inspect 3m or nearest point of natural reference from the panel ie. Not to be viewed from scaffold, mass climbers etc.

Attached is a method statement and some before and after images of acceptable repair standards.

Should you have any further questions on this please do not hesitate to contact me directly.

Kindest Regards

Alan Cochrane

Alan Cochrane

Director

Suite 2, Enterprise House, Southbank Business Park
Strathkelvin Place, Kirkintilloch
G66 1XQ
Tel: 0330 094 5450
Co Reg No: SCO79734

LS Surface Repairs Risk & Method Statement

Company Name	LS Surface Repairs		
Company Address	Unit 21, Europa Court, Dee View Boulevard, Chester, CH1 4NP		
Assessment No		LS Surface Repairs Job No	
Customer		Customer Contact	
Site Contact		Site Contact No.	

Project/Task				
Project/Site Address				
Start Date		Hours		Duration

Assessment date	Review Date	Name of Assessor
		Ashlea Evans (Safety Panda)

Data Protection Statement

The information and data provided herein applies only to the contract for which it was written, it shall not be duplicated, disclosed or disseminated by the recipient in whole or in part for any purpose whatsoever without the prior written permission from Laminate Solutions.

It is the duty of all employees to observe the following method statement framed to provide a code of good practise and conduct with the object of preventing accidents. At all times employees must work in a safe manner both to prevent personal injury to themselves or to other personnel

Important Note:

It is the duty of all employees under regulation 14 of the "Management of Health and Safety at Work Regulations 1999" To inform the employer of any circumstances that may indicate any shortcomings in this assessment.

Brief description of the Project: Stone Repairs

Method of Works:

1. Put on your personal protective equipment
2. Cordon off work area if required to do so with a barrier and signage.
3. Ensure the area to be worked and exit points are clear of obstruction and that safe access and egress is maintained.
4. When tools and electrical equipment are not in use, ensure electrical equipment is switched off and move to a safe location.
5. Assess area to be repaired, cordon off area.
6. Mask off/protect areas accordingly to protect surrounding surfaces from dust and overspray.
7. Clean out routed joint as required.
8. Remove debris and loose material from damaged area, clean and prepare the damaged area.
9. Rake out any cracks and chips to the surface using Dremel to prevent further cracking.
10. Mask off damaged area prior to filling.
11. Fill damaged area with 2 pack stone filler. Tint the filler to achieve a good colour match to the existing surface.
12. Sand and profile using various grades of abrasives.
13. Re-skim damaged area as required with tinted filler and profile.
14. Remove dust with dust brush and tacky cloth.
15. Sand and polish repair as required to blend in to existing surface finish.
16. If required apply base colour paint to repair using premixed or sample mixed paint, via airbrush spray gun or pallet and brush.
17. Allow to dry then de-nib repeat process if necessary to achieve required coverage.
18. Apply detail using pallet and brush as required.
19. Seal detail using topcoat lacquer.
20. Apply topcoat, repeat to achieve desired finish.
21. De-mask area and remove any overspray as required, tidy up.

Tools/equipment to be used dependant on site (110v or 240v):

1. Compressor/110v HVLP spray system
2. Extension Lead (fitted with RCD if 240V)
3. 110v Transformer
4. Mini Gravity Gun/Airbrush
5. Dremel (cordless) as required
6. Mirka sander (if required)
7. Heat gun (as required)
8. Palette and Brushes
9. Hand tools as required: sanding block, chisels, filling knife.

Materials to be used:

1. Masking paper/masking tape
2. Two pack filler/hardener
3. Stone Primer
4. Stone Topcoat
5. Thinners as supplied or specified by client/customer
6. Sand papers/wet and dry paper, scotch pads
7. Tacky cloths, Rags/cloth
8. Paper towel
9. Tints as supplied
10. Prep clean panel wipe

LS Surface Repairs Contacts:

Operations Manager: Barry McNulty – 07548 058 737

Contracts Manager: Rick Jones – 07884 263 712

Health & Safety: Ashlea Evans (Safety Panda) – ashlea@safetypanda.co.uk

Contractor and visitor safety

LS Surface Repairs will liaise with other contractor's staff on a day to day basis and ensure they are aware of the risks present during the works. Staff and contractors will not leave any area of work in a dangerous condition or with risks to themselves, other contractors, tenants, or visitors. All tools will be cleared to secure storage at the completion of each shift. Scaffold, ladders and any other access to height will be made inaccessible.

Control of vapours

COSHH guidelines are followed when working with chemicals and substance. LS Surface Repairs operatives will be issued the appropriate respiratory protection for this project.

PPE & RPE

Hard hat, Hi visibility jacket, safety boots, gloves, glasses and respiratory equipment, as specified by COSHH data sheets.

First aid

On arrival to site LS Surface Repairs technicians attend the induction course set out by the principal contractor on site, the name and first aid point on site is to be advised of and recorded.

Protection of goods and decor

All areas of floor and furniture will be protected with adequate non slip dust sheets prior to work commencing. All protection will be checked on a regular basis and renewed where necessary.

Site Access and Egress

The principal contractor is responsible for providing safe access and egress to the site, LS Surface Repairs will ensure safe access and egress is maintained for themselves and other contractors in the area that they are working in, good standards of housekeeping will be maintained. LS Surface Repairs will be responsible for safe access and egress when they are the principal contractor.

Technicians

The task will be carried out by technicians from LS Surface Repairs, who, as qualified repair technicians, are experienced in the repairs required. They hold valid CSCS cards.

Tools and Electrical Equipment

All items of tools and equipment will be visually inspected on a regular basis defective or damaged equipment will be removed from service and isolated. Electrical tools will be 110v where possible, if 240V equipment is to be used all electrical equipment will be fitted with an RCD unit. Technicians will not be allowed to bring on to site any damaged or defective tools, the site foreman is responsible for ensuring that all tools and equipment allowed on site are fit for purpose. All of LS Surface Repairs power tools and electrical items are PAT tested every 3 months or when necessary.

Welfare

The principal contractor is responsible for providing adequate washing, toilet, drying and refreshment facilities for staff and sub-contractors. Staff and contractors are responsible for ensuring that the welfare facilities provided are maintained in a clean and wholesome manner. Step ladders are not to be used without a permit from the main contractor.

To be observed by staff at all times, any deviation from these control procedures must be authorised by the management or safety representative.

Emergency Procedure:

1. Call emergency services in the event of an emergency on 999
2. Local hospital is
3. Contact: First aid position on site if needed report the accident to LS Surface Repairs office and the principal contractor

TASK / Activity	Hazards Relevant to this work	PERSONS AT RISK	Risk Level			Protective/Preventative Measures Required.	Residual Risk		
			L	S	R		L	S	R
Housekeeping	Slips, trips, falls Fire	Operatives & site personnel	2	3	6	Work areas to be kept clean before, during and after repairs are carried out. Remove all waste, materials and unwanted equipment that may cause a hazard immediately after use. Ensure any spillages are cleaned and removed immediately. Dry waste such as dust on the flooring area should be cleaned up and disposed of immediately. Identify uneven surfaces and potential trip hazards using signage and demarcation to warn of potential trip and slip hazards. When potential hazards cannot be removed and controlled the use of barriers should be used to cordon off the hazardous area. Ensure any trailing cable leads are kept out of walkways, tape to sides/floor to prevent walkers by tripping. Correct PPE and safety footwear to be worn at all times when carrying out tasks.	1	3	3

TASK / Activity	Hazards Relevant to this work	PERSONS AT RISK	Risk Level			Protective/Preventative Measures Required.	Residual Risk		
			L	S	R		L	S	R
Stone Repairs	Inhalation of product fumes & vapours Slips, trips & falls Cuts/abrasions	LS Surface Repairs Operatives	3	3	6	Operatives to wear provided fitted Half face RPE masks when spraying. Keep cables from equipment to one side by running it along the side of a walkway and/or tape cables down The use of job rotation where possible to reduce the amount of exposure to harmful materials. Operatives to wear cut level 5 gloves if required to prevent cuts or abrasions from hand tools Maintain good levels of natural ventilation via windows and doors. The use of forced ventilation via extraction units when working in highly confined areas. Cordon off work area and restrict access to other contractors and the general public. All operations/processes to be carried out as per method statement/ safe systems of work.	2	1	2

TASK / Activity	Hazards Relevant to this work	PERSONS AT RISK	Risk Level			Protective/Preventative Measures Required.	Residual Risk		
			L	S	R		L	S	R
Manual Handling	Muscular injury	LS Surface Repairs Operatives	3	3	6	Training for all employees in the correct manual handling techniques. Assess the load, plan the route, use the correct lifting technique, keep load close to body, do not twist and turn the back move the whole body during the lift and moving the load. If in doubt do not lift get help. Team lifting to be used when loads are heavy or awkward to carry. The use of mechanical lifting aides where possible. i.e. fork lifts, porters trolleys Materials decanted into smaller containers, source smaller/lighter equipment for tasks.	2	1	2

TASK / Activity	Hazards Relevant to this work	PERSONS AT RISK	Risk Level			Protective/Preventativ e Measures Required.	Residual Risk		
			L	S	R		L	S	R
Use of power/hand tools	Slips, trips & falls Cuts/abrasions	LS Surface Repairs Operatives	3	3	6	Power tools to be PAT tested every three months and regular maintenance to be carried out. Visual inspection of equipment and cable prior to use. Any defective equipment to be removed from service. All tools to be of 110v to reduce level off power shock injury. All 110v equipment to be powered via a generator situated within the cordoned off work area. When 240V equipment used, RCD to be fitted. Tools to only be used for their designed purpose and maintained to a safe standard. PPE to be worn as required.	2	1	2

TASK / Activity	Hazards Relevant to this work	PERSONS AT RISK	Risk Level			Protective/Preventative Measures Required.	Residual Risk		
			L	S	R		L	S	R
Work at Height	Slips, trips & falls	LS Surface Repairs Operatives	3	5	15	Only trained, certificated and competent persons to erect scaffolding and towers or operate mobile platforms	2	2	4
	Unguarded openings	Site Personnel				Only use equipment that has been checked tested and certified.			
	Poorly stored items	Public				Technicians using mobile platforms to partnered and be supervised by a trained operative at all times.			
	Using equipment without guards/rails					Harnesses to be used all times when working on platforms.			
						Tools used on access equipment to be kept safely away from edges and secured tightly.			
						Ensure there are no overhead cables in working area.			
						Ensure terrain is correct for the type of height access equipment.			
						Work area to be cordoned off from unauthorised personnel and the general public.			

Employee Signature Page

Name	
Date	
Position	
Signature	

Name	
Date	
Position	
Signature	

Name	
Date	
Position	
Signature	

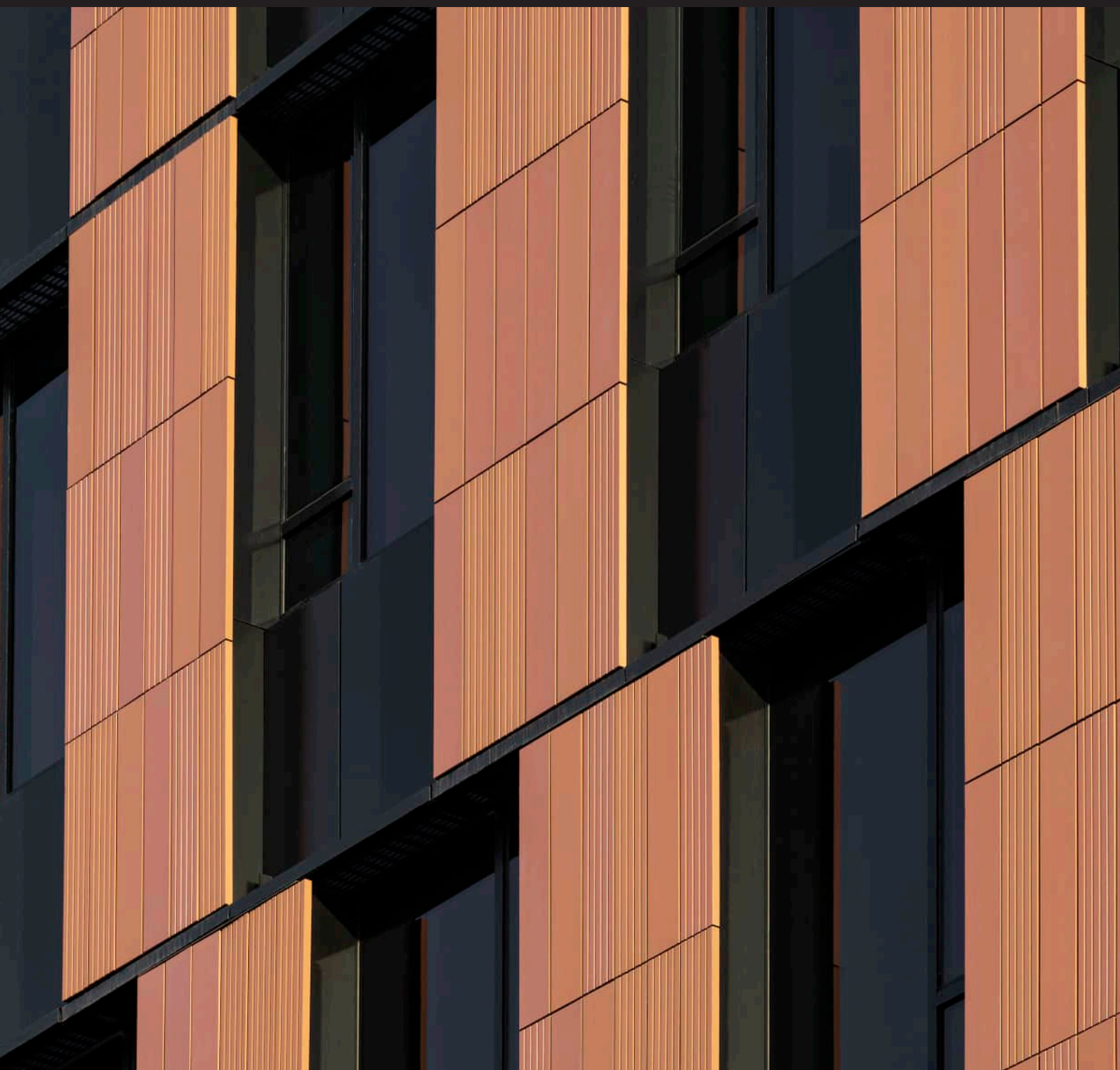
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Favemanc

MAINTENANCE GUIDELINE FOR CERAMIC VENTILATED FAÇADE



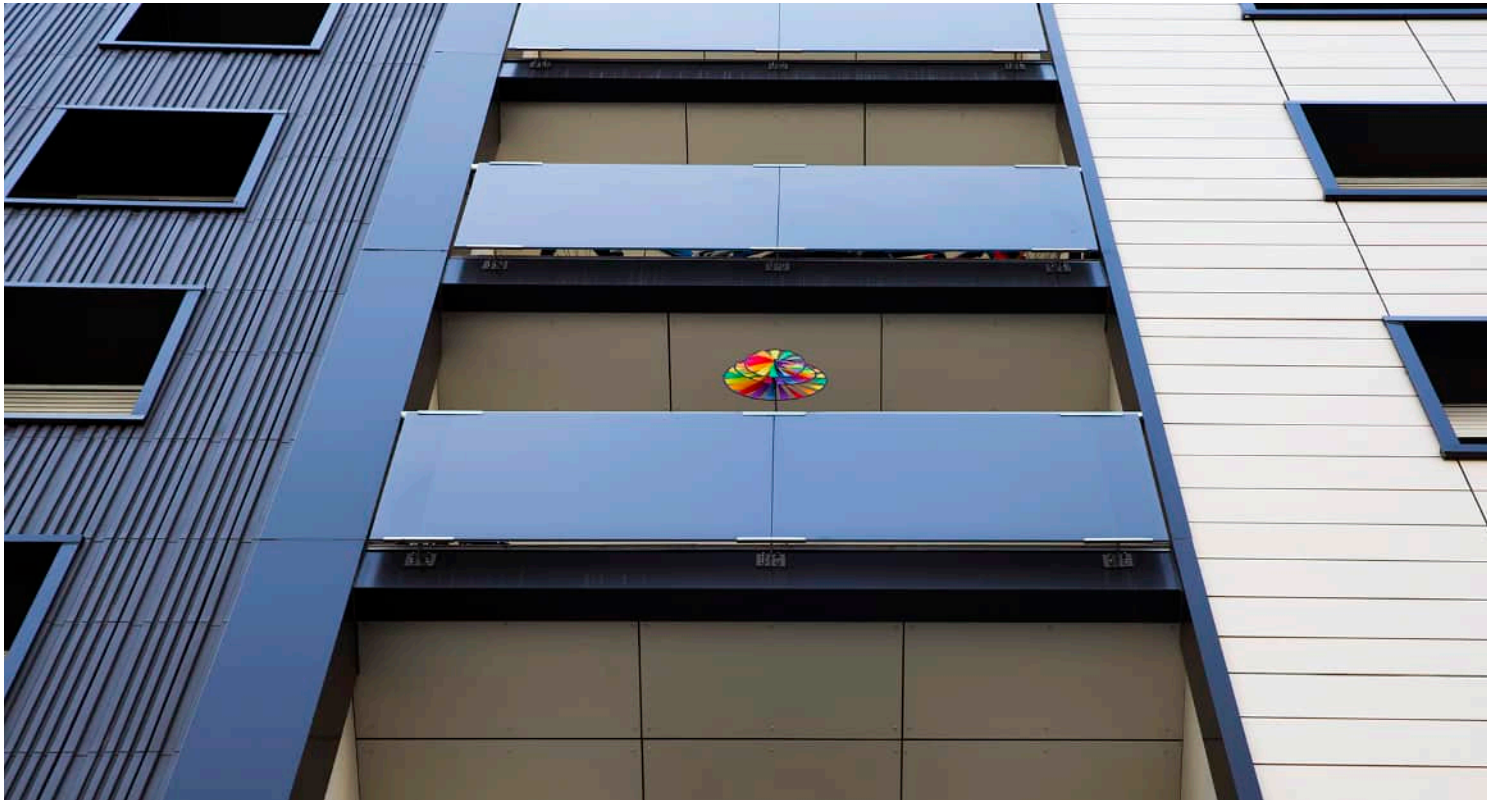
Gresmanc
GROUP

This **maintenance and cleaning manual for ceramic ventilated façades** allows you to extend and preserve the life of the building more effectively. In this guide, you will find the inspections that we recommend carrying out and the different maintenance operations. The instructions included in the preset manual shall possibly be integrated with the guidelines provided by the technical team of the specific project, which generally contains more detailed information.

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Our ceramic ventilated façade systems have exceptional technical and aesthetic features, and for this reason, we have a specialized technical team that offers a competitive service.



We lead each project to ensure it meets the highest quality standards and the specific needs of each customer, ensuring the correct installation and the benefits provided by Favemanc products.

That is why the **maintenance and cleaning manual** will extend the lifetime of the building.

This guide details how to anticipate possible unexpected events. The responsible for the maintenance of the building, which can be either a public or a private entity, must keep it in good condition, through proper use and maintenance.



1. PREVENTIVE MAINTENANCE



1.1 CLEANING

A visual inspection is recommended every 2 years, in order to assess the need for an unscheduled cleaning.

Direct contact with environmental pollution or severe weather can cause dirt deposits on the façade. For general applications, we recommend a periodic deep cleaning every 10 years.

The process would be to use pressurized water and dry with a clean cloth. In case of persistent stains, the use of neutral soap is advised.

1.2 VISUAL INSPECTIONS

- Possible fissures or breaks in the pieces. As well as unusual defects in the morphology of the piece or unusual discolorations.
- Correct alignment of vertical and horizontal joints.
- Visual inspection of singular points (crowning, corners, start, encounters with carpentry...).

If you observe any of the anomalies listed above, please contact specialized personnel.

2. CORRECTIVE MAINTENANCE

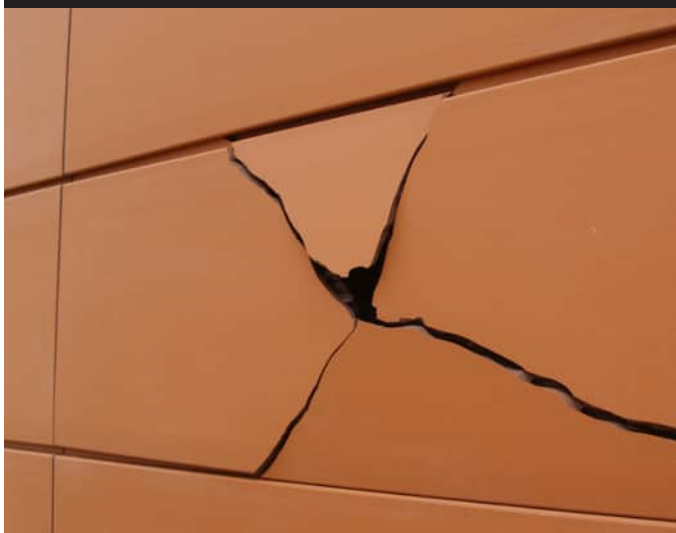
IN THE CASE OF:

2.1. BREAKAGE OF PLATES DUE TO VANDALIC ACTS, ACCIDENTS, OR NEGLIGENCE OF HANDLING.

Verification of the structure damage by qualified personnel. In case the replacement of these damaged parts becomes necessary, please contact specialized technicians.

2.1.1 TILE REPLACEMENT PROTOCOL

STEP 1 Identification of the broken ceramic tile.



STEP 2 The tile is broken into four parts but continues to hold onto the anchor.



STEP 3 Thanks to our system, the pieces never fall. We must remove the pieces one by one.



STEP 4 Eliminate the pieces and leave the hole empty.



STEP 5 Hang the new tile. Take advantage of the space between the plate and the clip to fit the new plate.



STEP 6 Once it is hung on top, it is dropped to produce anchorage in the bottom.



STEP 7 The integrity of the façade is perfectly restored.



2.2. WATER LEAKS

If the damage caused by such leaks is observed, report the issue to specialized personnel for correction.

2.3. PAINTS, GRAFFITI, RUST, OR SALTY RESIDUE

Paints and graffiti: Solvent.

Rust: Consult a specialist.

Saltpeter: Soapy water, if it persists, use an anti-limescale.



Do not manipulate the structure or facade tiles without prior review by a specialized technician.
Do not perform any machining on the ceramic or the system.

If unusual dilations, misaligned sores, or damage to the structural system are detected, contact specialized personnel.

Gresmanc

G R O U P

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info@gresmanc.com

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