

RENAKER



First Street – House of Social

Project Quality Strategy – Façade

Revision 0.1

Renaker Build Limited
NQ Building
47 Bengal Street
Ancoats
Manchester M4 6BB

Reference	TEM-QM-12	Project Quality Strategy – Façade First Street – House of Social	RENAKER
Author	SG		
Revision	0.1		

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Revision Information

Current version approved by

Name	Title	Date
Pat Weightman	Project Manager	11/09/2024
Rob Colville	Head of Sustainability, Quality & Environment	11/09/2024

Revision History

Date revised	Reason	Key changes
24/04/2024	First Issue	Full Document
11/09/2024	2nd issue	Update to include TGA (Architect) role in the management of quality on site
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1.0 Introduction

The purpose of this document is to set out the quality control strategy and procedure for the selection, design, manufacture, delivery, and installation of the building envelope.

The main façade is traditional cavity brickwork on an SFS and weather board backing, there are masonry support and precast heads and bandings throughout the elevations.

The windows to student accommodation are a composite window by Velfac.

There is curtain walling and louvres to the lower levels (Food Hall and Amenity) and metal rainscreen cladding is at Level 12 and 13.

2.0 Subcontractor Selection and Management

The selection of satisfactory subcontractor(s) is paramount to achieving the required quality on the project.

Therefore, there are several factors applied to identify suitable subcontractor(s) such as:

1. Financial strength to sustain the required cash flow
2. Quality management system
3. Standard of workmanship
4. Competency and experience of employees
5. Number of relevant projects completed
6. Adherence to programme / on-time delivery
7. Sufficiency of resources
8. Provision of safety information & performance
9. Costing
10. Past relationships
11. Current and projected workload
12. Reputation

3.0 Roles & Responsibilities

The Design and Construction team members all have important roles and responsibilities in managing the quality of the facade materials and installation for the project.

Interested Parties in the Façade design and construction are as follows:

- Architect(s) – Tim Groom Associates
- Construction Management – Renaker Build Ltd.
- Façade Contractor – PLF – Brickwork and precast elements
 - Velfac – Windows
 - TBA – Curtain walling and cladding contractor
 - SFS & Weather board - Titan
- Façade Consultant – WSP
- Acoustic Consultant - Fisher

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4.0 Interface Management

See below photograph of VMU which was constructed to understand key interfaces and has been inspected by MCC planning officers, these interfaces are noted as follows :-



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The following text describes the key interfaces and explains how these are managed :-

- 1) **Precast masonry supports and insitu concrete frame** – The masonry support contractor has liaised with the Architect and Structural Engineer to understand the set out and loadings which will interface with the support angles, they have then free issued cast in channels which are cast into the concrete slabs and upstands. Once a pour is complete a survey is carried out and the details are forwarded to the masonry support contractor to allow angle irons to be manufactured to exact dimensions.
- 2) **SFS installation and windows** – Engineers on site provide full setting out information (centre of window opening, head and cill level) to ensure the openings are correct, the window installer follows these setting out points to install the windows, the EPDM sealant around windows to the sheathing board has been chosen for it's compatibility with the board and it's fire rating.
- 3) **Brickwork, cavity protection, ties and ancillaries** – The brickwork setting out follows the design provided by the architect, the structural engineer provided all the masonry tie details and positions and the restraints from the precast elements to the structure, these have all been co-ordinated with the damp proof tray positions and fire barriers in the cavities, the location of these is detailed on elevational drawings and are inspected, photographed and signed off at agreed hold points.
- 4) **Cill and window head vent flashings** – The cills are designed by the window manufacturer and are fixed to the window base, these interface with the compriband sealant which surrounds the window, the cills will be fixed as the mast climbers are removed to avoid damage and will be sealed with compriband at the same time.
The window head vent flashings have been designed by the window manufacturer as they fix into the window head profile, these will also be fitted as the mastclimbers are dismantled to avoid damage to these components.
- 5) **Rainscreen cladding to Level 12 and 13** – The rainscreen elements provide infill panels to brickwork piers, they are independently supported of the SFS system and the fixing positions will be co-ordinated by the specialist subcontractor, these panels will be installed once the brickwork has been completed to avoid any damage to the panels.

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5.0 Project Quality Management

5.1 Supplied Product

Procedures are in place to ensure products supplied to Renaker Build Ltd., are manufactured in accordance with standard requirements. Velfac have certified their quality management according to the requirements of ISO 9001 and their environmental management according to ISO 14001.

Velfac have manufacturing factory Non-Conformance Report (NCR) Procedures and Corrective and Preventive Action (CAPA) procedures to ensure the Quality of the supplied windows.

The brickwork is manufactured in Germany by MUHR, they have BSI accreditation and have supplied bricks to countless numbers of schemes in the UK.

The curtain walling will be Shuco or Kawneer systems and these are covered by both ISO 9001 and ISO 14001, the install company is yet to be procured but will be from an approved installer list by the manufacturer.

The precast elements are being supplied by Amber Valley, they are members of the UK cast stone association (UKCSA) and their rigorous testing and quality control.

5.2 Transportation, Deliveries & Installation

5.2.1 Transportation & Deliveries

There is risk of damage during transportation if the products are not packed properly.

On the House of Social project the materials are received as follows :-

Brickwork – shrink wrapped on pallets on flatbed articulated lorries for off loading by site forklift

Windows – shrinkwrapped on bespoke timber racks, offloaded by forklift on site.

Precast elements – shrink wrapped on pallets for off loading by forklift

All elements are inspected for visual damage as they are offloaded and will be returned immediately if any damage has occurred, they are inspected further once unwrapped and this is a second opportunity to return any damaged elements prior to them being installed in the works.

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5.2.2 Installation

Once on site the windows are loaded into hoist in their racks, they are then unpacked on the floorplate and installed using a manipulator – see photograph below



The brickwork and precast are loaded onto the mast climbers for install, the bricks are laid by hand but the precast elements will be lifted by an integrated monorail as part of the mast climber installation – see photograph below

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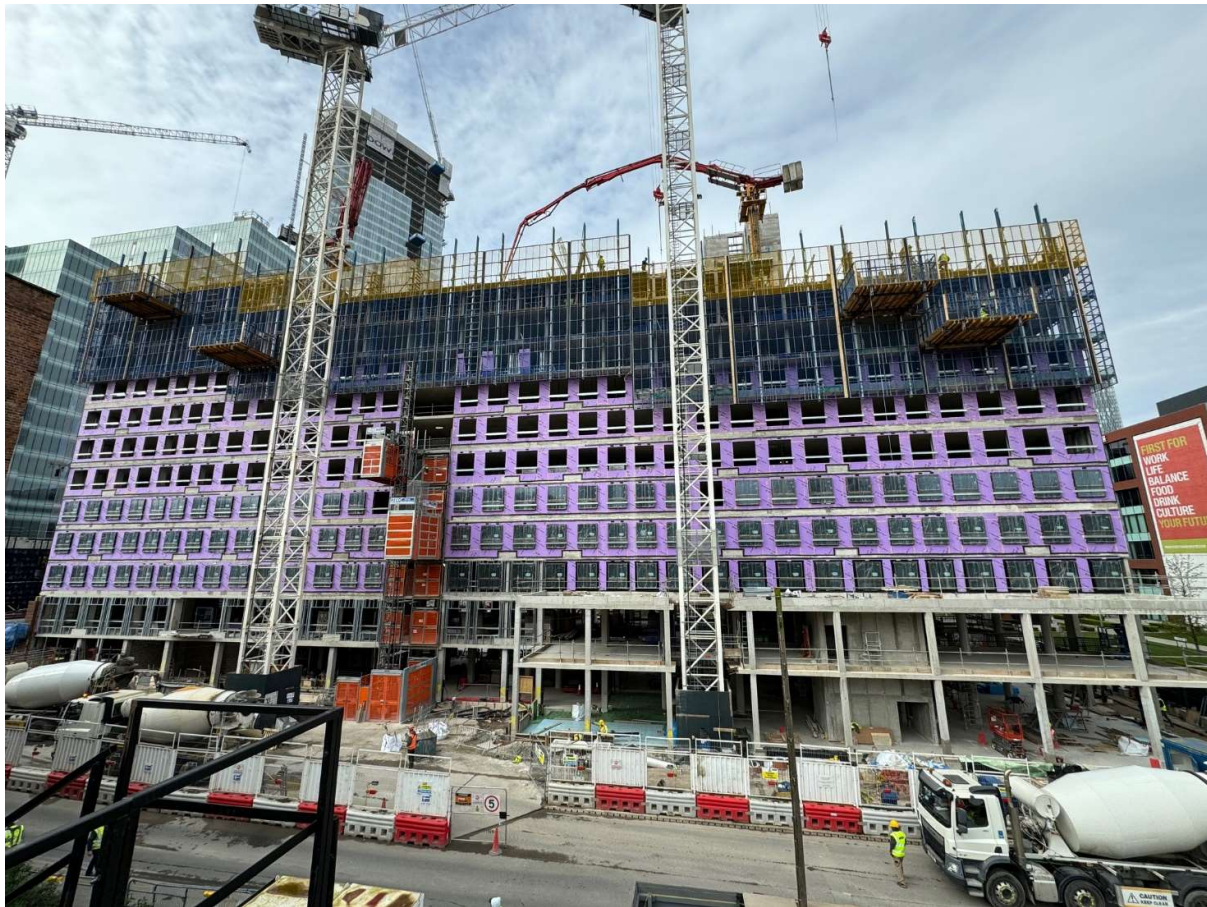


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SFS and weather board is installed off the safety screens, this can be seen on the next photograph :-



5.2.3 Inspection & Test Plans (ITPs)

An Inspection & Test Plan (ITP) is produced for each element of the façade, this is a document that describes the process of checking the works at each stage and therefore assists in managing the quality control and assurance of a particular element of the construction works providing information on the following:

- the requirements,
- an overview of the method(s) to be used,
- responsibilities of all relevant parties, and
- documented evidence to be provided to verify compliance.

ITPs are detailed within the subsidiary Envelope Quality Plan.

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5.3.2 Snagmaster QA Checklists

Snagmaster (SM) is RBLs online portal for storing information on defects, checklists, forms and permits ascertaining to the QC & QA of the project.

The personalised, interactive, and secure dashboard provides views for main contractor, sub-contractor, and client users to ensure everyone has the access they require. In addition, the Snagmaster Business Dashboard available on the RBL HIVE.

Data can be displayed as tables or graphs and filtered, ordered, and downloaded in a variety of useful .pdf layouts, or exported to Excel for further analysis. It can also produce and export activity reports, tracker views, plan views, sub-contractor worksheets and room sheets.

5.3.3 Non-conformance Reporting (NCR)

A Non-conformance report (NCR) is where there is a specification deviation or work that fails to meet quality standards. The report is used for the quality control process, in which it details the problem, how it occurred, and how to prevent it from happening again.

Non-conformance reports (NCR) shall be recorded on the RBL HIVE system.

5.3.4 Sub-contractor Non-conformance Reporting (NCR)

Sub-contractor(s) supplying or working on behalf of RBL are expected to report to the project team where any non-conformance has been identified within their scope of work.

5.3.5 Snagging

A Snag is a minor defect which can be easily corrected without the need for redesign, significant cost and/or involvement of the wider project team.

Snags are identified and raised by both RBL and authorised third parties (e.g., Clients) in Snagmaster. These are then transmitted to the relevant sub-contractor for repair and then closed (or rejected) by RBL. Where snags are raised by third parties, they will be invited to sign off their snags once RBL has first closed them.

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5.5 Report & Review

To maintain the effectiveness of the QMS and QPs, regular review sessions shall be held at a frequency not less than monthly with the Quality Manager with topics including but not limited to:

- Effectiveness and timeliness of NCR close out,
- Robustness of ASITE workflows and operation,
- Review of sample checks and audits
- Review of Snagmaster performance,
- Review of sub-contractor specific quality issues,
- Close out of quality checklists,
- Review of relevance and implementation of QPs,
- Review of externally required Quality Reporting.

5.6 Compliance checks

As part of TGA's (architect) appointment to Renaker they visit site once a month and walk round with Renaker and the relevant sub-contractors. They have a duty to review the constructed design and comment against the design intent. Works are reviewed with the contract drawings, approved planning drawings and benchmark VMU in mind. If they witness any deviation that requires further exploration, they will advise the Renaker accordingly via email and photographic report. TGA also review all subcontractor information to ensure that the design intent is not diluted before being developed up to construction status and installed onsite. This is all captured on Renakers Asite website where all comments are recorded.

6.0 Remedial Works

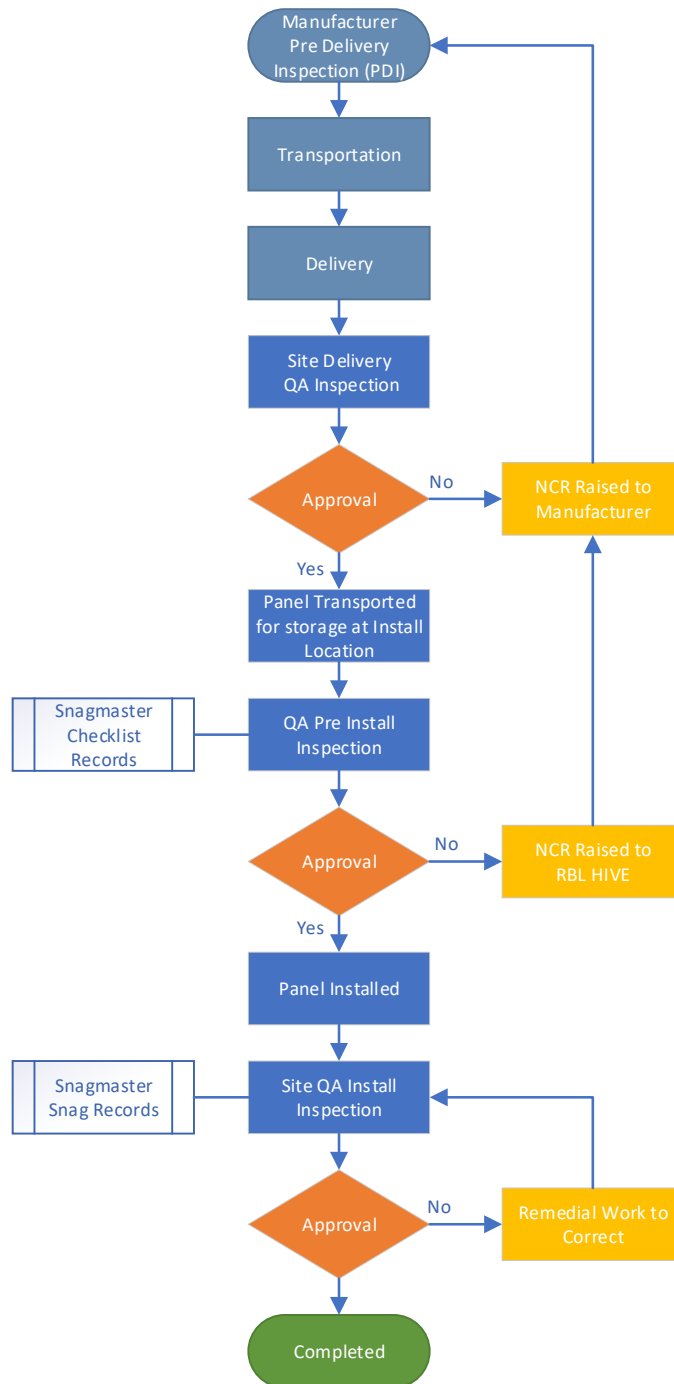
Whenever there is damage to any element the below process is followed:

- Site supervisor will issue an NCR, copies of work to be carried out will be circulated to all relevant persons.
- The damage will be reviewed and categorised as an item which has to be replaced or if there is an agreed remedial strategy for this component to be carried out insitu.
- Once agreed the component will either be replaced or repaired and notification will be given to the main contractor.
- The repaired component will be inspected and either accepted or rejected.

Elements of the façade which cannot be replaced have been purposely damaged and repaired to agree the level of acceptance for remedial works, these are repairs to chipped precast elements.

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7.0 Site Inspection & Test Flow Chart (for a window)



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8.0 Interested parties

The below table should be populated with any relevant interested parties, their needs and expectations (relevant to the envelope) and how these will be met.

Interested party	Needs and expectations	How these will be met
Architect(s) TGA	Meets with the Architectural / Clients Design Intent / Expectations.	Pre-Construction: Robust design approval process involving: Periodic DTM's. Formal Drawing Approval/Sign-off - Asite. Visual inspections/approval of physical samples including full size VMU. Review of performance data of products/systems to be used on the scheme to ensure compliance with specification and environmental expectations.
Building Control Officer (BCO) Ball and Berry	Project compliant with Current Building Regulations.	Periodic site inspections, followed by the issuing of a formal report. Regular review of Site ITPs / Check Sheets. Formal sign-off of the building.
Client Select	Finished Construction Build is regulation compliant and meets aesthetic and performance expectations.	• Acoustically efficient. • Energy efficient. • EWS1 Sign-off to verify Firestopping meets or betters fire legislation.
Construction RBL / Titan / Velfac / PLF	Finished Construction Build Meets with the Aesthetic / Performance Expectations of Client.	Robust Quality Management System to be Implemented: <u>Pre – Construction:</u> • DTM's/Formal Design Sign-off Asite. • Sample Reviews Including Full Size Visual Mock Up Followed by Formal Sign-off. <u>Construction Phase:</u> • Strategic hold points. • Site ITP Quality Checks recorded on SM.

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		• Periodic Visual Inspections by 3rd party organisations (Fire Consultant/Façade Consultant/BCO/Clients COW etc.) • Formal sign-off process to client. <u>Post Construction:</u> • Detailed aftercare O&M Package provided.
Façade Consultant WSP	Design Details/Quality of Materials/Installation all compliant with The Façade Performance Specification.	Periodic Site Visits (Quantity as identified within their order) with a Formal Report issued following each visit. Full check of the subcontractor design and approval / comments on same.

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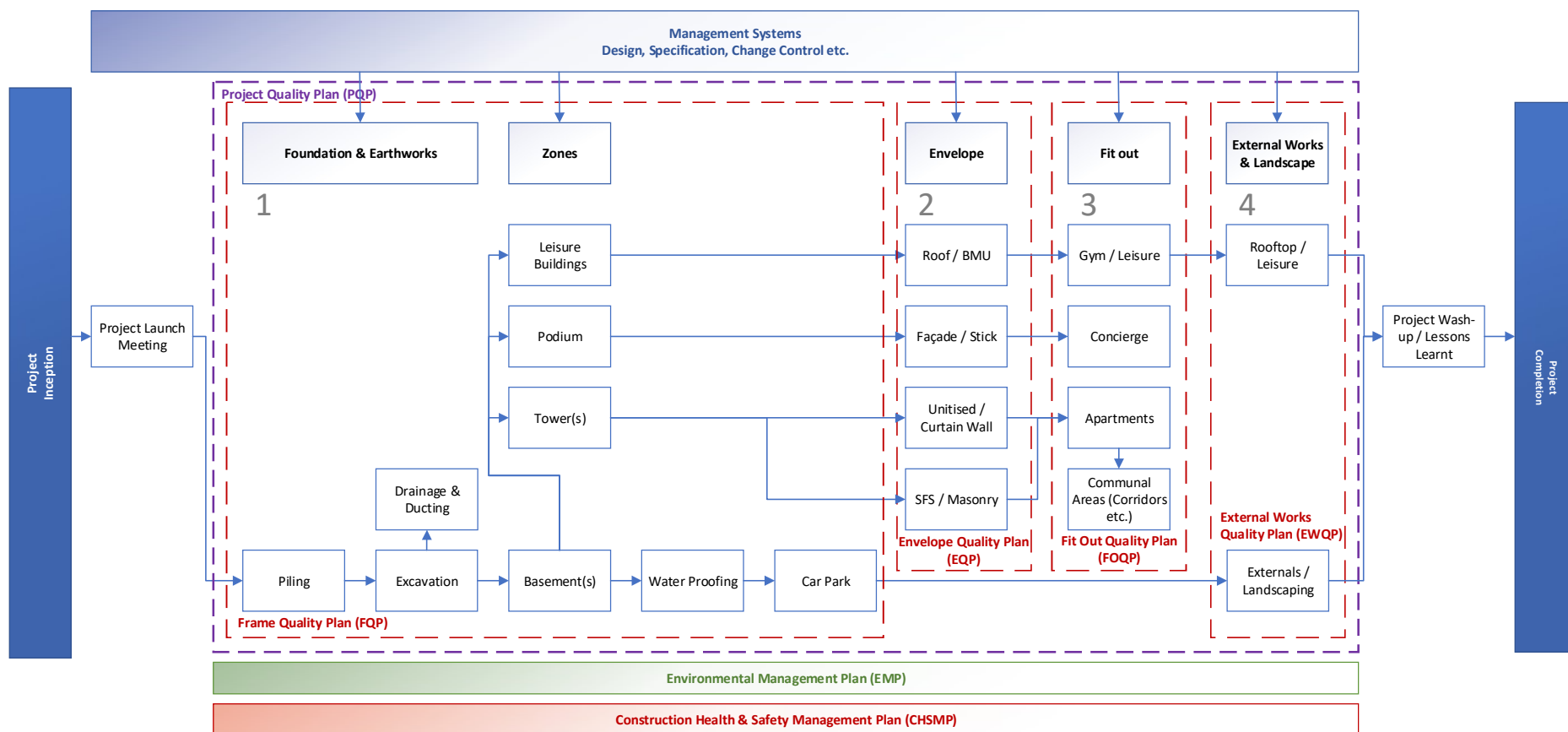
Appendix 1 - Examples of certification schemes covering construction materials.

	From 2014, the CE (Communauté Européenne) marking of structural steelwork and aluminium was mandatory. CE is a 'declaration of performance' not a quality mark. It covers 400 products including: Timber; Wood flooring, wood panelling, cladding; Concrete, wall elements, Beam: precast blocks; Glass blocks and pavers etc.
	From The UKCA marking is the product marking used for products being placed on the market in Great Britain (England, Scotland and Wales) and UKNI (Northern Ireland).
	The Kitemark, which indicates that a product has been independently tested by BSI (the British Standards Institute) to confirm that it complies with the relevant British Standard and have licensed the product manufacturer to use the Kitemark.
	The British Board of Agrément (BBA) is a construction industry approvals body. The BBA runs an insulation Approved Installer Scheme, linking installations of injected cavity wall insulation to BBA approval. BBA approvals show compliance with Building Regulations and other requirements, including installation quality. The BBA also inspects for the Fenestration Self-Assessment Scheme (FENSA) and the Federation of Master Builders. The BBA runs the Highways Authorities Product Approval Scheme (HAPAS), County Surveyors Society and other UK agencies.
	The United Kingdom Accreditation Service (UKAS) is the sole national accreditation body for the United Kingdom. UKAS is recognised by government, to assess against internationally agreed standards, organisations that provide certification, testing, inspection and calibration services. UKAS provides accredited testing, calibration, inspection and certification to give consumers, suppliers, purchasers and specifiers the assurance that construction projects run efficiently, construction sites are safe and reliable materials are used. They also provide Government and Regulators with reliable evidence that completed projects meet regulatory compliance.
	BRE Global, a UKAS accredited certification body, provides independent, third-party certification of fire, security and environmental products and services.

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Appendix 2 - Project & Quality Plan Structure



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