



Project Number: AS077

Project Name: Queens Wharf Replacement of Rendering

Project Address: Queens Wharf, Reading

Client Name: StanLil Contractors Ltd

Date: 14th May 2021

M21 INSULATION WITH RENDERED FINISH

To be read with Preliminaries / General Conditions

GENERAL / SYSTEM REQUIREMENTS

110 SURVEY OF EXISTING WALLS

Survey report: The condition of the surface to receive the FASSATHERM CLASSIC external wall insulated system, should be inspected to ensure the surface is sound, dry and free from dirt and organic matter. A pull-out test can be carried out, on request. For further information refer to FASSATHERM External Thermal Insulation Composite System Technical Installation Manual.

120 SURVEY OF EXISTING WALLS

Timing: Before starting work covered in the section.

Objective: To confirm suitability for application of external wall insulation system.

Survey report: covering all relevant matters listed below:

- The form and condition of the structural substrate.
 - A schedule of repairs and / or additional works necessary to render the substrate suitable to receive the system.
 - A schedule of services, fixtures and fittings requiring removal to facilitate installation of the system.
 - Proposals for treatment of potential cold bridges, e.g. reveals, concrete floor edges.
- Any other information considered relevant.

160 REMEDIAL WORK

Remedial work shown to be necessary by survey

180 STRUCTURAL SUBSTRATE

Description: New block work / Masonry / Existing Masonry

Preparation: Clean down existing surfaces. Masonry should be dry and cured for 28 days.

210 EXTERNAL WALL INSULATION SYSTEM

Manufacturer: FASSA UK Ltd

Contact: *Andy Sampson 07760 168460*

System reference: FASSATHERM PLUS Mineral Wool System Adhesive Fix
Insulation: Mineral Wool
Thermal Conductivity: 0.036W/mK
Thickness: 80mm
Density: 105 kg / m³
Minimum compressive strength: 10 kNm²
Insulation Below Ground: Polystyrene EPS Grey Premium 30 kg / m³
Mechanical Fixing: FASSA COMBIFIX 135mm
Mechanical Fixings per board: See clause 410 (Confirmed following site pull-out test)
Adhesively Bonded: A96 Adhesive
Finish Coat: RX561/RSR/FA 1mm/1.5mm/2mm/3mm
Colour: Fassa 365

PROFILES:

Base profiles to suit thermal insulation, manufactured from aluminium or PVC. Fixed at not less than 300mm centres with Ejothrm NK U 8 hammer fix or SDK U Fassa Roto Mechanic Fix screws with a fixing in the nearest suitable hole to the end of the track. Packing shims should be used to overcome any uneven substrates.

FIRE BARRIERS:

To be applied at each floor level above two storeys consisting of 200mm wide Lamella Mineral Wool at the same thickness of thermal insulation being used. Each lamella insulation board adhesively fixed to the substrate and secured with two stainless steel insulation fixings in line with BRE135 guidelines. (When used on the face of the insulation, this could form a cold bridge and may result in light spots in the surface of the finished render)

MOUNTING BLOCKS or STAND OFF FIXINGS:

These should be FASSA BORTOLO fixing systems such as Fassa Quadroline EPS, Quadroline PU, UMP-ALU-TRI blocks, or similar stand-off fixings or timber blocks, suitable for the designed loads.

ADHESIVE:

A96 applied to the thermal insulation with a minimum 50% coverage to the insulation using either a full coverage notched trowel method or complete perimeter bead, with a spot configuration to the insulation to support mechanical fixing positions.

BEADS and TRIMS:

Fassa approved mesh corner profiles, stop beads, movement beads, APU beads and sealing tape.

BASE COAT PRIMER:

It is highly recommended to use FX526 primer on to dry A96 for all render finishes.

RENDER BASE COAT:

A96 is applied to thermal insulation at 5-6mm with reinforcing mesh in the top third of the basecoat with a 100mm overlap of mesh and 300mm stress patches at openings and windows.

REINFORCEMENT:

Fassanet 160 160g/m² reinforcing mesh. For high impact areas, use 2 layers of Fassanet 160 or 1 layer of Fassanet 270 reinforcing mesh 370g/m².

SUPPLEMENTRY FIXINGS:

To provide 1 stainless steel system mechanical fixing per sqm² fixed through the system base coat (and mesh) before dry, recessed into the basecoat and then made good to comply with BRE 135 fire recommendations.

COLOUR/ TEXTURE/GRAIN SIZE:

The finish shall be RX561/RSR/FA 1mm/1.5mm/2mm/3mm. To avoid wall overheating, which could jeopardise the durability of the External Thermal Insulation Composite System, the choice of colours with a Y reflection index greater than 20 is recommended. Y reflection index greater than 30 should also be considered in areas strongly exposed to the sun or with an insulation thickness greater than 10cm. For further clarification, advice will need to be sought from Fassa UK Ltd technical support.

On some dark colours or intense colours, a Fassa system paint to aid or enhance the appearance of colour consistency is recommended. Sufficient render finish material should be ordered to complete the project or elevation being worked on to avoid potential shade variation.

310 DESIGN:

Detail design of system and associated features shown on drawings and in Fassatherm External Thermal Insulation Composite System Technical Installation Manual. Under no circumstances shall any of the Fassa products be altered with any additives, except for small amounts of clean water as directed on the label.

320 INTEGRITY:

Capable of resisting dead loads and designed live loads, impact and wind loads based on the information given to Fassa UK Ltd and a wind load calculation carried out.

Project details, calculations and information for installation requirements should be submitted to Fassa UK Ltd prior to work commencing.

330 IMPACT LOADING:

Impact resistance of finish walls.

For public spaces up to 1.5mt and above ground level: 15Nm

Between 1.5mt and 6mt above ground level: 10 Nm

Over 1.5mt above ground level: 5 Nm

340 WIND LOADING:

General: Appropriate to location, exposure, height, building shape and size, taking account of existing and known future adjacent and attached buildings.

Standard: To BS 6399-2. Available wind loading calculation to be submitted by client to Fassa UK Ltd prior to work commencing. See clause 410 fixings. Wind load calculation available from Fassa UK Ltd on request.

360 SAMPLES:

Procedure: Submit samples/ examples of designated items for approval. Keep approved samples on site for the duration of the contract for inspection/ comparison purposes.

Designated items: Colour samples of the texture and 1m² panels of textured finish applied on site are available on request.

380 UNIFORMITY OF COLOUR AND TEXTURE OF COATING MIXES:

Type/ proportion of constituent materials: Unchanged once samples of coatings have been approved.

Supplies of materials: Sufficient to give consistent and uniform colour and texture ordered in one consignment to complete the project or single elevation.

410 INSTALLATION:

All installations of Fassa Systems should be performed by a Fassa UK Ltd approved specialist contractor. All installations are to be made in accordance with Fassa UK Ltd typical details, technical manuals, specifications and certificates. Products can be troweled or machine applied. Under no circumstances shall any Fassa product be altered with any additives except as and when directed by Fassa UK Ltd.

STARTER PROFILES:

Establish horizontal line at the height indicated on drawings and mechanically fix at 300mm centres maximum, using starter track fixings. Fit H-profile connectors to ensure straight jointing of the profiles.

SEALING JOINT SEALING STRIP AND SR BAND:

All areas where the FASSA THERM System meets dissimilar materials shall have the EPS board cut back from the adjoining material approx. 2-4mm and the joint between formed using compression strip expandable waterproofing sealing tape. The tape is applied to the edge of the EPS board or to the adjacent surface and the EPS board fitted into position with the tape at full compression. Subsequent movement is accommodated by the expansion of the tape thereby maintain the water tight seal.

INSULATION BOARDS:

Attention must be paid to how insulation panels are stored on the project. Avoid exposure to atmospheric agents and protect panels from direct sunlight in particular.

A96 applied to the thermal insulation with a minimum 50% coverage to the insulation using either a full coverage notched trowel method or complete perimeter bead, with a spot configuration to the insulation to support mechanical fixing positions

Panels must be applied from the bottom upwards with staggered joints. Vertical joints must be staggered at least 25cm. At corners, panels must be alternated so as to ensure stress absorption.

As panels are being laid, they must be tapped with a wooden or plastic trowel to make them adhere to the substrate as much as possible. Use a straight edge to check the flatness of the entire surface.

Panel installation must be planned so that the joints between the panels are staggered with respect to door and window openings. Panels must be doglegged around all openings.

BOARD FIXINGS:

Use Fassa Combi Fix anchor or Fassa Top fix screw anchor for masonry substrates. For resin impregnated mineral wool panels, use W-pattern. Each is fixed with 3 anchors at a distance of about 5-10cm from the edge as describe in the Fassatherm External Thermal Insulation Composite System Technical Installation Manual.

Fixings should also be increased by 20% at the perimeter of windows. Anchors must be arranged at intersections on the panels plus one centrally.

In some certain situations, such as high-rise buildings, the insulation surfaces are subject to negative wind-loadings. In such circumstances it may be necessary to introduce supplementary fixings to achieve the necessary factors of safety. Wind-loading calculations must be carried out in accordance with British Standards and submitted to Fassa UK Ltd to ascertain the fixing requirements for each installation.

- Required anchoring for building with a height less than 10Mt – 6 anchors/M2 in the centre of elevation and 6 anchors/M2 on the edge of the elevation.
- Required anchoring for building with a height 10Mt-25Mt – 6 anchors/M2 in the centre of elevation and 7/8 anchors/M2 on the edge of the elevation.
- Required anchoring for building with a height less than 10Mt – 6 anchors/M2 in the centre of elevation and 9/10 anchors/M2 on the edge of the elevation.

BASE COAT WITH REINFORCEMENT MESH:

Once the panels have been mechanically fixed, the base coat can be applied using a metal trowel leaving a thickness of at least 5-6mm when using A96. Working horizontally or vertically in strips, immediately embed the Fassanet 160 reinforcing mesh into the wet base coat. Avoid wrinkles in the mesh. The fully finished thickness of the reinforcing coat shall be such that the mesh is fully embedded. Allow the reinforcing coat to dry thoroughly before applying the finish.

In areas that are particularly subject to impact, generally up to 1.5mt, two solutions are available.

- The horizontal application of 370g/m2 reinforced mesh FASSANET 370 to be embedded in the base coat layer. A second layer of 160g/m2 mesh FASSANET 160 to be applied, over lapping it by at least 10cm over the entire façade, up to the base profile.
- The use of two layers of 160g/m2 standard mesh, being careful to install the first layer without any overlapping. The second layer of mesh should be applied by overlapping it by at least 10cm over the entire façade, up to the base profile.

REINFORCEMENT AT OPENINGS: Prior to the application of the reinforcing mesh, mesh is required at windows and door openings. This will consist of a reinforcement mesh “stress patches” 250 mm x 250 mm minimum, positioned at 45 degrees to the corners of the openings and such that they extend equally either side of the corner.. For further detail and stress patch type, refer to the Fassatherm External Thermal Insulation Manual,

FINISH RENDER: Mask off window frames etc to prevent staining of the finish coat, ensure all scaffold boards are free from dirt before application. After the base coat is complete hardening, apply primer FX526 / FS 412 / FA 249 using a roller or brush. Using a clean, rust free low speed mixer, thoroughly stir the finish coat to a uniform consistency (consistency can be adapted by adding a maximum of 5% clean water). Mixing of any other additive is not prohibited.

Apply the top coat using a steel trowel to the thickness of the grain in a continuous application ensuring you always work from a wet edge. Finishing should be done using a plastic trowel by rubbing the wet texture in circular motions. Care should be taken to avoid texture changes at different levels.

MOVEMENT JOINTS: The Fassatherm Classic does not require expansion joints except where the substrate has an existing control joint, expansion joint or live building crack or where the system is applied to adjoining different substrates.

Predicated movement to be confirmed to Fassa UK Ltd prior to work commencing. Movements joint to be formed using slip joints or similar to take the specified amount of movement.

PLINTH INSULATION:

Basetherm below ground to be formed using base board 200 grade EPS adhesively fixed using Fassa Basecoll two part adhesive. Apply Basecoll to the entire surface of the base board panel and then fix it to the substrate, ensuring corners interlock if more than one board high. Use Fassa Combi Fix anchor or Fassa Top fix screw anchor prior to reinforcing layer as detailed in board fixing clause.

Basecoll should then be applied using a notched trowel over the surface of the base board and embed Fassanet 160 reinforcing mesh and trowel to leave as smooth as possible. Continue around the required area making sure to exceed at least 20-30cm above ground level.

PLINTH DRAINAGE: It is recommended to form a gravel soak away at the base of the system to aid dispersion of surface water and to help avoid splash up, which could stain the finished surface

420 ADVERSE WEATHER

- Materials/ Surfaces: Do not use frozen materials and do not apply materials to frost bound surfaces.
- Adhesives/ Mortars/ Renders: Do not apply when air temperature is at or below 5°C on a falling thermometer or below 3°C on a rising thermometer, or when temperature of the air or wall surface is above 30°C and the surface is not protected.
- Temperature of the work: Maintained above minimum level recommended by manufacturer until adhesive/ mortar/ render has fully hardened.
- Newly rendered surfaces: Protected against rain and snow by covering when precipitation occurs.
- Coatings damaged by rain or frost: Replace.

430 SUBSTRATES

- Condition before pre-treatment/ application of coatings: Structurally sound, adequately true and level, dry, free from contamination by dirt, dust, efflorescence or other deleterious substances, and in a suitable condition to receive specified coatings.

440 ON SITE PULL OUT TESTS ON FIXING PINS

- Objective: To prove suitability of structural substrate and determine size and number of fixings required.
- Pull out test load: _____
- Period of notice: _____

490 CONSTRUCTION/ MOVEMENT JOINTS

- Location: As shown on drawings.
- Formation: Accurately to detail.
- Modifications to joint locations/ design: Agree revisions before proceeding.

510 FIRE BARRIERS

- Material: Non-combustible to BS 476-4.
- Size (minimum): _____.
- Installation: _____
- Fixing: Mechanically back to structural substrate. Closely butted at joints and intersections with no gaps and incorporating intumescent strips, tapes, mastic or foam sealants recommended by system manufacturer.

520 SUPPORTS FOR SERVICES/ FITTINGS

- Service/ Fitting: _____
- Location: _____
- Type of support: _____

530 SEALANT JOINTS

- Locations: _____
- Sealant: _____
- Joints: Formed in accordance with section Z22 and system manufacturer's recommendations using any necessary joint fillers, backing strips, etc.

550 INSPECTION OF COMPLETED INSTALLATION

- Timing: As soon as possible after completion of the work and before removing scaffolding.
- Notice for inspection (minimum): _____
- Defects: Report immediately.