

Halliday Meecham Architects Ltd

Wardens

Castlegate Apartments

5412

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For planning

P01

27-08-2021

Re-cladding Castlegate Apartments

Contents

F10 Brick/ block walling	1
H43 Metal insulating sandwich panel cladding/ roofing	7
H92 Rainscreen cladding	11
K11 Rigid sheet flooring/ sheathing/ decking/ sarking/ linings/ casings	20

F10 Brick/ block walling

Types of walling

110 Clay facing brickwork

1. Description: Red facing brick to replace any damaged bricks
2. Bricks: To BS EN 771-1.
 - 2.1. Manufacturer: LBT facings
 - 2.1.1.Product reference: York Red Blend
 - 2.1.2.Note: Bricks to match existing Lincoln Red Clay Facing Bricks - originally from Marshalls
 - 2.2. Recycled content: as manufactured
 - 2.3. Special shapes: None
3. Mortar: As section Z21.
 - 3.1. Standard: To BS EN 998-2
 - 3.2. Mix: 1:3 masonry cement:sand
 - 3.3. Additional requirements: Mortar to match existing
4. Bond: To match existing
5. Joints: Bucket handle

290 Manufactured stone blockwork - red sandstone

1. Description: Red sandstone cladding to replace existing
2. Blocks: To BS 1217.
 - 2.1. Walling type: to match existing
 - 2.2. Manufacturer: Marshalls
 - 2.2.1.Product reference: Locharbriggs Block Stone
 - 2.3. Block type: Solid
 - 2.4. Recycled content: as manufactured
 - 2.5. Work sizes (length x height x thickness): To match existing
 - 2.6. Finish/ Colour: Shotblasted
 - 2.7. Special shapes: Sills, Quoins
3. Mortar: As section Z21.
 - 3.1. Standard: To BS EN 998-2
 - 3.2. Mix: 1:3 masonry cement:sand
 - 3.3. Additional requirements: mortar to match existing
4. Bond: to match existing
5. Joints: Bucket handle
6. Features: Solid blocks to opening reveals
7. Support structure: as recommended by manufacturer
8. Insulation: as clause F30/155

295 Manufactured stone blockwork - white reconstituted blocks

1. Description: White reconstituted blocks to replace any damaged blocks
2. Blocks: To BS EN 771-5.
 - 2.1. Manufacturer: Forticrete

- 2.1.1. Product reference: Shot-blasted Diamond
- 2.2. Configuration
 - 2.2.1. Form: Homogenous
 - 2.2.2. Voids: None
- 2.3. Recycled content: as manufactured
- 2.4. Work sizes (length x width x height): To match existing
- 2.5. Finish/ Colour: shot-blasted
- 2.6. Special shapes: Quoins
- 3. Mortar: As section Z21.
 - 3.1. Standard: To BS EN 998-2
 - 3.2. Mix: 1:3 masonry cement:sand
 - 3.3. Additional requirements: mortar to match existing
- 4. Bond: as existing
- 5. Joints: Bucket handle
- 6. Features: None

Testing

410 Compressive strength of mortar for each walling type

- 1. Testing authority: An approved laboratory A UKAS Accredited laboratory
- 2. Test method: To BS EN 1015-11.
- 3. Preliminary tests procedure: As follows:
 - 3.1. Specimens
 - 3.1.1. Number of specimens: 6.
 - 3.1.2. Type: 40 x 40 x 160 mm prism.
 - 3.1.3. Preparation: At least six weeks before walling commences.
 - 3.2. Specimen testing: Half of specimens at 7 days. Remainder at 28 days.
 - 3.2.1. Retarded mixes: Extend curing periods to include retardation period.
 - 3.3. Response to result: If mean compressive strength at 28 days is not within the range given below repeat tests with more suitable sand or next higher designation of mortar.
- 4. Site tests procedure: As follows.
 - 4.1. Number of specimens: Six per 150m² of walling or per storey whichever the more frequent.
 - 4.2. Specimen types: As preliminary test, but prepared during construction.
 - 4.3. Specimen testing: Half of specimens at 7 days. Remainder at 28 days.
 - 4.3.1. Retarded mixes: Extend curing periods to include retardation period.
- 5. Results: Submit.

Workmanship generally

430 Conditioning of clay bricks and blocks

- 1. Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
- 2. Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

440 Conditioning of concrete bricks/ blocks

- 1. Autoclaved concrete bricks/ blocks delivered warm from manufacturing process: Do not use.
- 2. Age of nonautoclaved concrete bricks/ blocks: Do not use until at least four weeks old.

3. Avoidance of suction in concrete bricks/ blocks: Do not wet.
 - 3.1. Use of water retaining mortar admixture: Submit details.

460 Mortar designations

1. Mix proportions: For a specified designation select a mix from the following:
 - 1.1. Designation (i) (BS EN 998-2 M12 equivalent)
 - 1.1.1.1:0-¼:3 (Portland cement:lime:sand with or without air entraining additive).
 - 1.1.2.1:3 (Portland cement:sand and air entraining additive).
 - 1.2. Designation (ii) (BS EN 998-2 class M6 equivalent)
 - 1.2.1.1:½:4-5 (Portland cement:lime:sand with or without air entraining additive).
 - 1.2.2.1:3 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1.2.3.1:2½-3½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1.2.4.1:3-4 (Portland cement:sand and air entraining additive).
 - 1.3. Designation (iii) (BS EN 998-2 class M4 equivalent)
 - 1.3.1.1:1:5-6 (Portland cement:lime:sand with or without air entraining additive).
 - 1.3.2.1:3½-4 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1.3.3.1:4-5 (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1.3.4.1:5-6 (Portland cement:sand and air entraining additive).
 - 1.4. Designation (iv) (BS EN 998-2 class M2 equivalent)
 - 1.4.1.1:2:8-9 (Portland cement:lime:sand with or without air entraining additive).
 - 1.4.2.1:4½ (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1.4.3.1:5½-6½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1.4.4.1:7-8 (Portland cement:sand and air entraining additive).
2. Batching: Mix proportions by volume.
3. Mortar type: Continuous throughout any one type of masonry work.

500 Laying generally

1. Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
2. AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
3. Clay block joints
 - 3.1. Thin layer mortar: Lay blocks on a full bed.
 - 3.2. Interlocking perpend: Butted.
4. Bond where not specified: Half lap stretcher.
5. Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

520 Accuracy

1. Courses: Level and true to line.
2. Faces, angles and features: Plumb.
3. Permissible deviations
 - 3.1. Position in plan of any point in

4. relation to the specified building
5. reference line and/ or point at
6. the same level ± 10 mm.
 - 6.1. Straightness in any 5 m length ± 5 mm.
 - 6.2. Verticality up to 3 m height ± 10 mm.
 - 6.3. Verticality up to 7 m height ± 14 mm.
 - 6.4. Overall thickness of walls ± 10 mm.
 - 6.5. Level of bed joints up to 5 m
7. (brick masonry) ± 11 mm.
 - 7.1. Level of bed joints up to 5 m
8. (block masonry) ± 13 mm.

545 Levelling of separate leaves

1. Locations for equal levelling of cavity wall leaves: As follows:
 - 1.1. Every course containing vertical twist type ties or other rigid ties.
 - 1.2. Every third tie course for double triangle/ butterfly ties.
 - 1.3. Courses in which lintels are to be bedded.

560 Coursing brickwork

1. Gauge: Four brick courses including bed joints to 300 mm.

561 Coursing brickwork with existing

1. Gauge: Line up with existing brick courses.

595 Lintels

1. Bearing: Ensure full length masonry units occur immediately under lintel ends.

610 Support of existing work

1. Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

620 Block bonding new walls to existing

1. Pocket requirements: Formed as follows:
 - 1.1. Width: Full thickness of new wall.
 - 1.2. Depth (minimum): 100 mm.
 - 1.3. Vertical spacing
 - 1.3.1. Brick to brick: 4 courses high at 8 course centres.
 - 1.3.2. Block to block: Every other course.
2. Pocket joints: Fully filled with mortar.

635 Jointing

1. Profile: Consistent in appearance.

645 Accessible joints not exposed to view

1. Jointing: Struck flush as work proceeds.

665 Pointing

1. **Description:** TO ALL WALLING
2. **Joint preparation:** Remove debris. Dampen surface.
3. **Mortar:** As section Z21.
 - 3.1. **Standard:** To BS EN 998-2
 - 3.2. **Mix:** 1:3 masonry cement:sand
 - 3.3. **Additional requirements:** to match existing
4. **Profile:** Bucket handle

671 Fire stopping

1. **Avoidance of fire and smoke penetration:** Fit tightly between cavity barriers and masonry. Leave no gaps.

690 Adverse weather

1. **General:** Do not use frozen materials or lay on frozen surfaces.
2. **Air temperature requirements:** Do not lay bricks/ blocks:
 - 2.1. In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
 - 2.2. In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising, or as manufacturer's/ supplier's recommendations.
 - 2.3. In thin layer mortars when outside the limits set by the mortar manufacturer.
3. **Temperature of walling during curing:** Above freezing until hardened.
4. **Newly erected walling:** Protect at all times from:
 - 4.1. Rain and snow.
 - 4.2. Drying out too rapidly in hot conditions and in drying winds.

Additional requirements for facework

710 The term facework

1. **Definition:** Applicable in this specification to brick/ block walling finished fair.
 - 1.1. **Painted facework:** The only requirement to be waived is that relating to colour.

730 Brick/ Concrete block samples

1. **General:** Before placing orders with suppliers submit for approval of appearance labelled samples of the following: Bricks as in clause F10/110 and F10/295 .
2. **Selection of samples:** Representative of the range in variation of appearance.

750 Colour consistency of masonry units

1. **Colour range:** Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
2. **Conformity:** Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
3. **Finished work:** Free from patches, horizontal stripes and racking back marks.

760 Appearance

1. **Brick/ block selection:** Do not use units with damaged faces or arrises.
2. **Cut masonry units:** Where cut faces or edges are exposed cut with table masonry saw.

3. **Quality control:** Lay masonry units to match relevant reference panels.
 - 3.1. **Setting out:** To produce satisfactory junctions and joints with built-in features and components.
 - 3.2. **Coursing:** Evenly spaced using gauge rods.
4. **Lifts:** Complete in one operation.
5. **Methods of protecting facework:** Submit proposals.

780 Ground level

1. **Commencement of facework:** Not less than 150 mm below finished level of adjoining ground or external works level.

790 Putlog scaffolding

1. **Use:** Not permitted in facework.

800 Toothed bond

1. **New and existing facework in same plane:** Bond together at every course to achieve continuity.

830 Cleanliness

1. **Facework:** Keep clean.
2. **Mortar on facework:** Allow to dry before removing with stiff bristled brush.
3. **Removal of marks and stains:** Rubbing not permitted.

Ω End of Section

H43

Metal insulating sandwich panel cladding/ roofing

Types of cladding/ roofing system

120 Metal insulating sandwich panel

1. Support structure: Existing curtain wall frame
2. Panels: Factory-assembled construction to BS EN 14509
 - 2.1. Manufacturer: Metalline Services Ltd, Hollies Park Road, Cannock, Staffordshire, WS11 1DB (01543 456930)
 - 2.1.1. Product reference: Ultima A2
 - 2.2. External facing material: 3mm aluminium sheet (J57S UP) with PPC finish
 - 2.3. Composition: Aluminium to BS EN 507, grade EN AW-3004
 - 2.3.1. Profile: Flat
 - 2.3.2. Finish: PPC
 - 2.3.3. Colour: to match existing
 - 2.4. Internal facing material: 2mm aluminium tray with mill finish
 - 2.4.1. Profile: Flat
 - 2.4.2. Finish: Natural plain mill
 - 2.5. Core insulation: Fabrock Clad insulation
 - 2.6. Panel thickness: to suit existing glazing rebate, to be site measured
3. Joint type
 - 3.1. Side/ vertical: as existing
 - 3.2. End/ horizontal: as existing
4. Primary fasteners: as existing system
5. End laps size (minimum): 100 mm
6. Sealing laps
 - 6.1. End laps: Two row(s) of partially cross-linked butyl rubber sealant tape, 6 x 5 mm or minimum diameter 6 mm and one row of silicone sealant to classification ISO 11600-F-25 LM of BS EN ISO 11600
 - 6.2. Side laps: Two row s of partially cross-linked butyl rubber sealant tape 6 x 5 mm or minimum diameter 6 mm
7. Fire performance
 - 7.1. Reaction to fire/ external exposure to fire
 - 7.1.1. Wall panel: To BS EN 13501-1, Class A2-s1, d0 or better
 - 7.1.2. Wall panel core insulation: To BS EN 13501-1, Class A2-s1, d0 or better
 - 7.2. Fire resistance
 - 7.2.1. Wall panel: To BS EN 13501-2, E60
8. U-value (plane): to achieve existing wall u-value
9. Accessories: As required to complete installation, additional matching curtain wall cappings where damaged by removal of existing. New gaskets.
10. Special features: recessed detail within panels, to match existing facade

General requirements

172 Thermal bridging

1. **Requirement:** Complete the design of the cladding/ roofing system to avoid excessive thermal bridging.
 - 1.1. Standard and process, in accordance with: BRE Report 497 and BRE IP 1/06

175 Product samples

1. **General:** Before commencing detailed design, submit labelled samples of the following: sample of panel with recess.

176 Fastener samples

1. **General:** During detailed design, submit labelled samples of each type of fastener.

Design/ performance requirements

198 Water penetration

1. **Requirement:** Under site exposure conditions, moisture must not penetrate onto internal surfaces, or into cavities not designed to be wetted.

200 Avoidance of interstitial condensation

1. **Requirement:** Determine interstitial condensation risk of cladding system using the method described in BS 5250 Annex D. If necessary, provide a vapour control layer and/ or revise thermal insulation to ensure that damage and nuisance from interstitial condensation does not occur.
2. **Outdoor psychrometric conditions (notional):** As follows:
 - 2.1. Temperature: Winter -5°C, summer 18°C
 - 2.2. Relative humidity: Winter 90%, summer 65%
 - 2.3. Vapour pressure: Winter 0.36 kPa, summer 1.34 kPa
3. **Indoor psychrometric conditions (notional):** As follows:
 - 3.1. Temperature: 20°C
 - 3.2. Relative humidity: 55%
 - 3.3. Vapour pressure: 1.285 kPa

202 Avoidance of surface condensation

1. **Requirement:** Determine surface condensation risk of cladding system using the method described in BS EN ISO 13788. If necessary, revise thermal insulation to provide satisfactory temperature factor (f_{min}). Ensure that damage and nuisance from surface condensation does not occur.

Fixing cladding/ roofing

219 Fasteners

1. **Unspecified fasteners:** Recommended for the purpose by the cladding/ roofing manufacturer.

221 Fittings and accessories

1. **Unspecified fittings and accessories:** Recommended for the purpose by the cladding/ roofing manufacturer.

223 Prevention of electrolytic action

1. Isolating tape: Type recommended by cladding/ roofing manufacturer.
 - 1.1. Location: To contact surfaces of supports and sheets of dissimilar metals.

410 Fixing panels and sheets generally

1. Cut edges: Clean true
2. Penetrations: Openings to minimum size necessary.
 - 2.1. Edge reinforcement: Sections to details
3. Orientation: Exposed joints of side laps away from prevailing wind unless shown otherwise on drawings.
4. Panel and sheet ends, laps and raking cut edges: Fully supported and with fixings at top of lap.
5. Fasteners: Drill holes. Position at regular intervals in straight lines, centred on support bearings.
 - 5.1. Position of fasteners in oversized drilled holes: Central.
 - 5.2. Fasteners torque: Sufficient to correctly compress washers.
6. Debris: Remove dust and other foreign matter before finally fixing panel and sheets.
7. Completion: Check fixings to ensure watertightness and that panels and sheets are secure.
8. Cut edges: Paint to match face finish.

480 Flashings/ trims generally

1. Lap joint treatment
 - 1.1. Vertical and sloping flashings/ trims: End laps to be same as for adjacent panels.
 - 1.2. Horizontal flashings/ trims: End laps to be 150 mm, sealed and where possible arranged with laps away from prevailing wind.
2. Method of fixing: To structure in conjunction with adjacent panels. Otherwise to panels.
 - 2.1. Fasteners: as recommended by manufacturer

540 Abutments

1. Junctions with flashings: Weathertight and neatly dressed down.

550 Sealing external laps

1. Sealant tape: Types recommended by panel/ sheet manufacturer.
2. Position of tape: Below fixing positions in straight unbroken lines, parallel to and slightly back from edge of panel/ sheet.
3. Seal quality: Effective, continuous and not overcompressed.
4. End laps: Sealant tape positions:
 - 4.1. Single line tape: 10-15 mm below line of fasteners.
 - 4.2. Second line tape: 10-15 mm above line of fasteners.
 - 4.3. Third line tape (silicone, where specified): 15 mm set back from the edge of external sheet.
5. Side laps: Sealant tape positions:
 - 5.1. Single line tape: Outside line of fasteners.
 - 5.2. Second line tape (where specified): On other side of fasteners.

670 Documentation

1. Certificates, records, guarantees and other documents: Submit on completion.

Ω End of Section

H92 Rainscreen cladding

Tendering - Not Used

Type(s) of rainscreen cladding

120 Rainscreen cladding

1. Description: To replace ACM cladding
2. Primary support structure: existing concrete slab/ metal studs
3. Rainscreen cladding system
 - 3.1. Manufacturer: Metalline Architectural Fabrications, Hollies Park Road, Cannock, Staffordshire, WS11 1DB
Tel: 01543 456 930
Email: unity@metalline.co.uk
 - 3.2. Type: Drained and back-ventilated
 - 3.3. Fire performance requirements: As clause 470 for rainscreen cladding, clauses 480 and 485 for backing wall, and clause 490 for cavity fire barriers.
4. Rainscreen panel
 - 4.1. Manufacturer: Metalline Architectural Fabrications
 - 4.1.1. Product reference: Unity A2 SF (Secret Fix Cassette) Aluminium cladding
 - 4.2. Material: Aluminium
 - 4.3. Thickness: 3mm
 - 4.4. Finish/ Colour: Polyester Powder Coated (A2-s1, d0 Classification to EN 13501-1)
Colour to match existing
 - 4.5. Joint type: Open
 - 4.6. Joint width: 10mm
5. Air gap: minimum 25mm
6. Secondary support/ framing system: Aluminium support system comprising extruded vertical support rails with adjustable wall attachment brackets
 - 6.1. Material: Extruded aluminium to BS1474 in 6063/T6 grade alloy.
 - 6.2. Fasteners: Panels fixed to support rails through material face – rivet fix min 15mm from panel edge.
 - 6.2.1. Number and location: As fabricators structural design
7. Backing wall: Existing concrete slab/ metal studs
 - 7.1. Thermal insulation: as clause 775
 - 7.2. Breather membrane: as clause 785
8. Accessories: as recommended by manufacturer
9. Other requirements: Panel dimensions, spacing and setting out to match existing

122 Rainscreen cladding to replace ACM soffits

1. Description: To replace ACM soffits
2. Primary support structure: existing concrete slab
3. Rainscreen cladding system
 - 3.1. Manufacturer: Metalline Architectural Fabrications, Hollies Park Road, Cannock, Staffordshire, WS11 1DB
Tel: 01543 456 930
Email: unity@metalline.co.uk

- 3.2. Type: Drained and back-ventilated
- 3.3. Fire performance requirements: As clause 470 for rainscreen cladding, clauses 480 and 485 for backing wall, and clause 490 for cavity fire barriers.
- 4. Rainscreen panel
 - 4.1. Manufacturer: Metalline Architectural Fabrications
 - 4.1.1. Product reference: Unity A2 PS (Plank/ Soffit Cassette) Aluminium cladding
 - 4.2. Material: Aluminium
 - 4.3. Thickness: 3mm
 - 4.4. Finish/ Colour: Polyester Powder Coated (A2-s1, d0 Classification to EN 13501-1)
Colour to match existing
 - 4.5. Joint type: Open
 - 4.6. Joint width: 10mm
- 5. Air gap: minimum 25mm
- 6. Secondary support/ framing system: Aluminium support system comprising extruded vertical support rails with adjustable wall attachment brackets
 - 6.1. Material: Extruded aluminium to BS1474 in 6063/T6 grade alloy.
 - 6.2. Fasteners: Panels fixed to support rails through material face – rivet fix min 15mm from panel edge.
 - 6.2.1. Number and location: As fabricators structural design
- 7. Backing wall: Existing concrete slab/ metal studs
 - 7.1. Thermal insulation: as clause 776
 - 7.2. Breather membrane: as clause 785
- 8. Accessories: as recommended by manufacturer
- 9. Other requirements: Panel dimensions, spacing and setting out to match existing

125 Rainscreen cladding to replace timber cladding

- 1. Contact details
 - 1.1. Address: Wern Tarw
Pencoed
Bridgend
Mid Glamorgan
CF35 6NY
 - 1.2. Telephone: +44 (0)1656 863210
 - 1.3. Web: www.rockpanel.co.uk
 - 1.4. Email: info@rockpanel.co.uk
- 2. Rainscreen cladding system
 - 2.1. Manufacturer: [Rockpanel](#)
 - 2.2. Product reference: [Rockpanel Woods A2](#)
 - 2.3. Third-party product certification: ETA-07/0141 or ETA-13/0340 - Dependent on variant specified.
 - 2.4. Panel size
 - 2.4.1. Length: 3050 mm
 - 2.4.2. Width: 1200 mm
 - 2.4.3. Panel thickness: 9mm
 - 2.5. Edge profile: Square edge
 - 2.6. Finish as delivered: ProtectPlus
 - 2.7. Colour: TBC

- 2.8. Reaction to fire
 - 2.8.1. Panel internal face: European fire class A2-s1, d0
 - 2.8.2. Panel external face: European fire class A2-s1, d0
- 2.9. Combustibility: European fire class A2-s1, d0
- 2.10. Fire performance requirements: As clause 470 for rainscreen cladding, clauses 480 and 485 for backing wall, and clause 490 for cavity fire barriers.
- 3. Rainscreen panel
 - 3.1. Material: Compressed rock fibre
- 4. Air gap: to be considered prior to installation - external wall thickness to remain as existing wall thickness
- 5. Secondary support/ framing system: Vertical and horizontal carrier rails
- 6. Backing wall: sheathing board as clause K10/401
 - 6.1. Thermal insulation: As clause 775
 - 6.2. Breather membrane: as clause 785

General requirements/preparatory work

210 Design

- 1. Rainscreen cladding system and associated features: Complete detailed design in accordance with this specification and the preliminary design drawings and submit before commencement of fabrication.
- 2. Related works: Coordinate in detailed design.

220 Specification

- 1. Compliance standards: The Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes'.
- 2. Reference information: For the duration of the contract, keep available at the design office, workshop and on site copies of:
 - 2.1. The Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes'.
 - 2.2. Publications invoked by the CWCT 'Standard for systemised building envelopes'.

230 Information to be provided during detailed design

- 1. Submit the following cladding particulars
 - 1.1. A schedule of detailed drawings and dates for submission for comment.
 - 1.2. A schedule of loads that will be transmitted from the rainscreen cladding to the structure.
 - 1.3. Proposed fixing details and systems relevant to the structural design and construction with methods of adjustment and tolerances.
 - 1.4. A schedule of fabrication tolerances/ size tolerances.
 - 1.5. A detailed testing programme in compliance with the Main Contract master programme.
 - 1.6. A detailed fabrication and installation programme in compliance with the Main Contract master programme.
 - 1.7. Proposals to support outstanding applications for Building Regulations consents or relaxations.

232 Quality plan

- 1. Requirement: Submit during detailed design.
- 2. Content: In accordance with BS EN ISO 9001 and including the following:

- 2.1. Name of the quality manager.
- 2.2. Quality assessment procedures.
- 2.3. Inspection procedures to be adopted in checking the work.
- 2.4. Stages at which check lists will be used and samples of the lists.
- 2.5. List of work procedures on the correct use of materials or components, both off site and on site.
- 2.6. List of product information with latest revisions.
- 2.7. Subcontractors involved in the work.
- 2.8. Subcontractors quality plans.
- 2.9. Storage, handling, transport and protection procedures.
- 2.10. Procedure for registering and reporting non compliances.
- 2.11. Maintenance procedures and calibration records.
- 2.12. Certification that completed work complies with specification.
- 2.13. Check list register to ensure all items have been inspected and non-compliances discharged.

235 Information to be provided before commencement of testing or manufacture of rainscreen cladding system

1. Submit the following cladding particulars
 - 1.1. Detailed drawings to fully describe fabrication and installation.
 - 1.2. Detailed calculations to prove compliance with design/ performance requirements.
 - 1.3. Project specific fabrication, handling and installation method statements.
 - 1.4. Certification for incorporated components manufactured by others confirming their suitability for proposed locations in the rainscreen cladding.
 - 1.5. Recommendations for spare parts for future repairs or replacements.
 - 1.6. Recommendations for safe dismantling and recycling or disposal of products.

240 Product samples

1. General: Before commencing detailed design, submit labelled samples of:

250 Samples of fixings

1. **General:** During detailed design, submit labelled samples of each type of fixing, together with manufacturers' recommended torque figures.

270 Mock-up

1. **General:** Construct during detailed design work in an agreed location. Satisfy purpose and obtain approval of appearance before proceeding. Retain undisturbed until completion of cladding installation.
2. Extent:
3. Purpose:

Design/performance requirements

310 CWCT 'Standard for systemised building envelopes'

1. **General:** Unless specified or agreed otherwise comply with:
 - 1.1. Part 2 - Loads, fixings and movement.
 - 1.2. Part 3 - Air, water and wind resistance.

- 1.3. Part 4 - Operable components, additional elements and means of access.
- 1.4. Part 5 - Thermal, moisture and acoustic performance.
- 1.5. Part 6 - Fire performance.
- 1.6. Part 7 - Robustness, durability, tolerances and workmanship.
2. Project performance requirements specified in this subsection: Read in conjunction with CWCT performance requirements.

430 Thermal properties

1. Method for calculating the thermal transmittance (U-value) of the rainscreen wall: Weighted U-value.
2. Average U-value of rainscreen wall: 0.30W/m²K minimum
3. Method for assessing thermal transmittance (U-value) of assemblies: By calculation

450 Air and Vapour control layer

1. Condensation risk within rainscreen wall: Determine using the method described in BS 5250, Annex D. Where required, provide a suitable air and vapour control layer to ensure that damage and nuisance from condensation is reduced.

470 Fire performance of rainscreen cladding

1. Standard: In accordance with the CWCT 'Standard for systemised building envelopes', section 6 and TN 98.
2. Reaction to fire
 - 2.1. External surfaces: To BS EN 13501-1, Class A2-s1, d0 or better
 - 2.2. Internal (cavity) surfaces: To BS EN 13501-1, Class A2-s1, d0 or better
3. Verification of fire performance: In accordance with the CWCT 'Standard for systemised building envelopes', section 6 and TN98

480 Fire resistance of backing wall

1. Minimum periods and criteria: as existing performance

485 Internal reaction to fire of backing wall

1. Class (minimum): BS EN 13501-1, Class A2-s1, d0

490 Fire resistance of cavity fire barriers

1. Standard:
2. Requirement: To resist the passage of flame and smoke for not less than 30 minutes' integrity, 15 minutes' insulation.

495 Durability

1. Relevant agents or degradation mechanisms: as BS 7543
2. Design life of the rainscreen cladding system: Not less than 25 years
3. Secondary components: Submit details together with required maintenance regime, replacement periods and methods of replacement.

497 Lightning protection system

1. Rainscreen components used as part of lightning protection system: re-instate existing system after replacement of cladding

Testing

520 Project testing (site)

1. **Timing of testing:** At an agreed stage during preliminary installation on site arrange for testing of a section of rainscreen cladding in accordance with relevant clauses of this specification.
2. **Continuation of installation of general areas of rainscreen cladding:** Not until site test results and reports showing compliance with this specification have been submitted.

Products

710 Aluminium alloy framing sections

1. **Standards:** To BS EN 755 alloy EN AW-6063 and suitable for the specified finish.
2. **Structural members:** To comply with BS EN 1999-1-1, -3 and -4.

712 Aluminium alloy sheet

1. **Standards:** To BS EN 485, BS EN 515 and BS EN 573.
2. **Alloy, temper and thickness:** Suitable for the application and specified finish.

715 Carbon steel framing sections/ Reinforcement

1. **Standards:** To the relevant parts of BS 7668, BS EN 10029, BS EN 10025 or BS EN 10210.
2. **Thickness:** Suitable for the application, and for galvanizing or other protective coating.

730 Mechanical fixings – material requirements

1. **Stainless steel:** To BS EN ISO 3506 grade A2 generally, grade A4 when used in severely corrosive environments.
2. **Carbon steel:** To BS 4190 and suitable for galvanizing or other protective coating.
3. **Aluminium:** To BS EN 755.

735 Fixings and fasteners

1. **Type and use:** Reviewed and approved by manufacturers. Submit confirmatory information on request.
2. **Dimensions:** Not less than recommended by their manufacturers.
3. **Adjustment capability:** Sufficient in three dimensions to accommodate primary support structure and rainscreen cladding fabrication/ installation tolerances.

760 Gaskets

1. **Material**
 - 1.1. Noncellular rubber to BS 4255-1.
 - 1.2. Cellular rubber to ASTM-C509-06.
2. **Durability:** Resistant to oxidation, ozone and UV degradation.

765 Weatherstripping of opening units

1. **Material:**
2. Noncellular rubber to BS 4255-1.
 - 2.1. Cellular rubber to ASTM-C509-06.
 - 2.2. Polypropylene woven pile, silicone treated.
3. **Installation:** Fixed in undercut grooves in framing sections using preformed corners with any joints in the length.

770 General sealants

1. Selection: In accordance with BS 6213 from:
 - 1.1. Silicone.
 - 1.2. One part polysulfide.
 - 1.3. Two part polysulfide.
 - 1.4. One or two part polyurethane.
2. Classification and requirements: To BS EN ISO 11600.
3. Reaction to contact products and finishes: Stable and compatible.

775 Thermal insulation For external walls

1. Material: Mineral wool to BS EN 13162
 - 1.1. Properties: Durable, rot and vermin proof and not degradable by moisture or water vapour.
2. Product reference: Rockwool Duo Slab
3. Thickness: 50mm
4. Recycled content: as manufactured
5. Fixing: Attached to the outer face or supported within the backing wall so as not to bulge, sag, delaminate or detach during installation or in situ during the life of the rainscreen cladding.
6. U-value: to achieve existing external wall u-value or minimum 0.35

776 Thermal insulation For soffits

1. Material: Mineral wool to BS EN 13162
 - 1.1. Properties: Durable, rot and vermin proof and not degradable by moisture or water vapour.
2. Product reference: Rockwool Soffit Slab
3. Thickness: 160mm
4. Recycled content: as manufactured
5. Fixing: Fixed direct to the concrete soffit using Ejot DDS fixings with the Ejot DDT70 washer or similar, as recommended by manufacturer
6. U-value: to achieve existing soffit u-value

785 Breather membrane

1. Manufacturer: [Novia Ltd](#)
 - 1.1. Contact details
 - 1.1.1. Address: Unit 12
Heronden Road
Parkwood Industrial Estate
Maidstone
Kent
ME15 9YR
 - 1.1.2. Telephone: [+44 \(0\)1622 678952](tel:+441622678952)
 - 1.1.3. Web: www.novia.co.uk
 - 1.1.4. Email: sales@novia.co.uk
 - 1.2. Product reference: [Novia FR Breather Membrane](#)
2. Standard: To BS EN 13859-2.
3. Class (minimum): W1.
4. Weight (minimum): 110 g/m².
5. Reflective face: 0%.

6. TensileStrength: Machine direction: 270 N/50 mm; cross direction: 175 N/50 mm to EN 12311□1.
7. Elongation (to EN 12311□1): 25% to EN 12311□1.
8. Tear resistance: Machine direction: 90 N; cross direction: 100 N to EN 12310□1.
9. Resistance to air penetration: 0.05 m³/(m².h.50 Pa) to EN 12114.
10. Sd value: 0.075 m to EN ISO 12572 C.
11. Resistance to water penetration: Class W1 to EN 1928A.
12. Reaction to fire: B□s1,d0 to EN 13501□1 (when fitted to A1/ A2 materials, D□s2,d0 when on wood).
13. Low temperature stability: □40°C to EN 1109.
14. UV resistance: Excellent.

Finishes

810 Protective coating of carbon steel framing sections/ Reinforcement

1. Treatment: All surfaces to one of the following:
 - 1.1. Hot dip galvanized to BS EN ISO 1461.
 - 1.2. An appropriate equivalent coating to BS EN ISO 12944 and BS EN ISO 14713-1 and -2.

820 Protective coating of carbon steel mechanical fixings

1. Treatment: All surfaces to one of the following:
 - 1.1. Hot dip galvanized to BS EN ISO 1461.
 - 1.2. Sherardized to BS EN ISO 17668, Class 30 coating thickness and passivated.
 - 1.3. Zinc plated to BS EN ISO 2081, coating designation of FE//Zn//C for an iridescent (yellow passivate) chromate conversion coating or FE//Zn//D for an opaque (olive green) chromate conversion coating.

830 Powder coating

1. Requirement: As section Z31.

Fabrication and installation

910 Generally

1. Electrolytic corrosion: Take necessary measures to prevent.
2. Identification of products: Mark or tag to facilitate identification during assembly, handling, storage and installation. Do not mark surfaces visible in the complete installation.

912 Metalwork

1. Requirement: As section Z11, unless specified otherwise in this section.

922 Fixings/ Adhesives application

1. Requirement: As section Z20, unless specified otherwise in this section.

925 Sealant application

1. Requirement: As section Z22, unless specified otherwise in this section.

930 Assembly

1. Location: Carry out as much assembly as possible in the workshop.

2. **Joints:** Other than movement joints and designed open joints, must be rigidly secured, reinforced where necessary and fixed with hairline abutments.
3. **Displacement of components in assembled units:** Submit proposals for reassembly on site.

960 Preliminary rainscreen cladding installation

1. **Requirement:** Complete an area of cladding as set out below for inspection and approval of appearance.
2. Part of penthouse apartment .

970 Rainscreen cladding installation

1. **Tightening mechanical fasteners:** To manufacturer's recommended torque figures. Do not overtighten fasteners intended to permit differential movement.
2. **Protective coverings:** Remove only where necessary to facilitate installation and from surfaces which will be inaccessible on completion.

980 Interfaces

1. **Installation:** Locate flashings, closers etc. correctly and neatly overlap cladding to form a weathertight junction.

985 Damage

1. **Repairs:** Do not repair cladding without approval.
 - 1.1. **Approval:** Will not be given where the proposed repair will impair performance or appearance.
2. **Record of repairs:** Prepare schedule or record on drawings for inclusion in the maintenance manual.

995 Maintenance

1. **Maintenance manual:** Incorporate details within the Building Manual in accordance with CWCT 'Standard for systemised building envelopes', clause 7.6.1.
 - 1.1. **Materials certification and test reports to be included:** all relevant to clause 120

Ω End of Section

K11

Rigid sheet flooring/ sheathing/ decking/ sarking/ linings/ casings

Types of flooring/ sheathing/ decking/ sarking/ lining/ casings

110 Wood-based sheets generally

1. Standard: To BS EN 13986.
 - 1.1. Evidence of compliance: All sheets to be CE marked. Submit Declaration of Performance (DoP).

585 Roof decking Fibre Cement Planks

1. Description: To replace existing timber decking on balconies
2. Substrate: Existing metal balcony structure
 - 2.1. Additional supports: New A fire rated pedestals
3. Decking: Fibre cement planks from AB Building Products Ltd Unit 5, Regents Court, South Way, Walworth Industrial Estate, Andover, Hampshire, SP10 5NX. Tel: 01264 359984)
 - 3.1. Thickness: 20mm
 - 3.2. Edges: Tongued and grooved all edges
 - 3.3. Other requirements: Provide edge trim to perimeter.
 - 3.4. Colour: TBC
4. Setting out: Long edges running across supports. End joints central over joists and staggered.
5. Fixing
 - 5.1. Fasteners: Aluminium joists and fixing clips
 - 5.2. Fixing centres (maximum)
 - 5.2.1. Along each support: 25 mm from each long edge and at a maximum 400mm centres between.
 - 5.2.2. Around perimeter: Maximum 400 centres
6. Expansion provision
 - 6.1. Clear expansion gap around perimeter of roof area and upstands: 1.5 mm per metre run of roof, with a minimum gap of 10 mm.
 - 6.2. Intermediate expansion/ movement joints: As recommended by decking manufacturer.

Workmanship

910 Installation generally

1. Timing: Building to be weathertight before fixing boards internally.
2. Moisture content of timber supports (maximum): 18%.
3. Joints between boards: Accurately aligned, of constant width and parallel to perimeter edges.
4. Methods of fixing, and fasteners: As section Z20 where not specified otherwise.

960 Fixing generally

1. Boards/ sheets: Fixed securely to each support without distortion and true to line and level.
2. Fasteners: Evenly spaced in straight lines and, unless otherwise recommended by board manufacturer, in pairs across joints.
 - 2.1. Distance from edge of board/ sheet: Sufficient to prevent damage.

3. Surplus adhesive: Removed as the work proceeds.

980 Open joints

1. Perimeter joints, expansion joints and joints between boards: Free from plaster, mortar droppings and other debris.
2. Temporary wedges and packings: Removed on completion of board fixing.

Ω End of Section



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