KIRK THERMALWALL INSULATED STONE CLADDING SYSTEM NBS SPECIFICATION

H51 Natural stone slab cladding/ lining/ features

PROJECT TITLE: NAME OF PROJECT

To be read with Preliminaries/ General Conditions.

10A INFORMATION TO BE PROVIDED WITH TENDER
• Submit the following cladding particulars:
- Typical plan, section and elevation drawings at suitable scales.
- Typical detailed drawings at large scales.
- Technical information and certification demonstrating compliance with specification of proposed incorporated products and finishes.
- Certification, reports and calculations demonstrating compliance with specification of proposed cladding.
- Proposals for connections to and support from the support structure/ background.
- Proposals for additional support structure/ background to that shown on preliminary design drawings.
- Schedule of builder's work, special provisions and special attendance by others.
- Examples of standard documentation from which project quality plan will be prepared.
- Preliminary fabrication and installation method statements and programme.
- Proposals for replacing damaged or failed products.
- Areas of non-compliance with specification.

TYPES OF CLADDING

110 CLADDING TO EXTERNAL WALLS AS NOTED ON ELEVATIONS
- Drawing reference (s): Architect Elevations, sections and detail drawings
- Support structure/ background: Blockwork, secondary lightweight steel or timber frame TBC.
* Stone slabs to BS EN 1469:
- Face dimensions, length (l) x width (b): TBC
- Thickness (d): 20 or 30 mm TBC.
- Petrographic name to BS EN 12407: TBC
- Denomination to BS EN 12440:
Name (traditional): Stone type TBC
Petrological family: TBC
Colour: TBC
Origin: UK Manufactured Panel Assembly – **KIRK THERMALWALL INSULATED CLADDING SYSTEM**.
- Finish: TBC.
- Supplier: Kirk Natural Stone Developments Ltd, Nethermill House, Auchterless, Turriff, Aberdeenshire, AB53 8BY. Tel.01888 511399.
- Quality: Stone panels free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
• Fixings: As determined by clauses 230 and 205.
• Joints:
- Type: Mastic filled or cement grouted as clause 595, or left open TBC.
- Bond pattern: TBC 150 mm minimum between all vertical joints.
- Width (nominal): 5/6mm or 8/10mm, +/-2mm, TBC
- Profile: Slightly concave.
• Cavity width (nominal): 30mm
- Air gap: 30mm.

• Cavity barriers: horizontal along slab edges, vertical and above window/door openings as per system manufacturers design, TBC.
• Thermal insulation: Typically Styrofoam or alternatively rigid PIR incorporated to achieve building design U values, mechanically fixed to panel backs using Kirk ThermalWall UK patented back site anchor fixing method in two layers offset by 30mm.
• Vapour control layer/ Waterproofing: N/A.
• Accessories/ Other requirements: TBC.

GENERAL REQUIREMENTS/ PREPARATORY WORK

205 CONTRACTOR'S DESIGN OF STONE CLADDING TO EXTERNAL WALLS
• Design responsibility: Determine type size, number and spacing of fixings.
• Structural and fire requirements:
- Generally: As required to comply with design performance.
- Modifications: None.
- Design: Complete the design in accordance with the designated code of practice to satisfy specified performance criteria.
• Functional requirements: As specified in this section.
• Additional requirements: Location of any movement joints required.

230 FIXINGS
• Standard: To BS 8298-1 and -2.
• Designer/ Supplier: Contractor's choice.
• Type: Secretly fixed.
• Material: Aluminium complying with BS 1474 and BS EN 755 or Stainless steel to BS EN 10088 grade 1,4301 (304 S16) .
• Dimensions: Not less than recommended by manufacturers.
• Extent of adjustment: To accommodate support structure/ background and cladding fabrication/installation tolerances.
• Method of fixing to backing wall: Expanding bolts, tek screws or woodscrews depending upon backing wall type.

245 INFORMATION TO BE PROVIDED DURING DETAILED DESIGN
• Submit the following cladding particulars:
- A schedule of detailed drawings and dates for submission for comment.
- A schedule of loads that will be transmitted from cladding to the support structure/ background.
- Proposed fixing details and systems relevant to structural design and construction with methods of adjustment and tolerances.
- A schedule of fabrication tolerances/ size tolerances.
- A detailed testing programme in compliance with Main Contract master programme.
- A detailed fabrication and installation programme in compliance with Main Contract master programme.
- Proposals to support outstanding applications for Building Regulation consents or relaxations.
• Timing of submissions: As agreed

247 QUALITY PLAN
• Requirement: Submit during detailed design.
• Content: In accordance with BS EN ISO 9001 and including the following:
- Name of the quality manager.
- Quality assessment procedures.
- Inspection procedures to be adopted in checking the work.
- Stages at which check lists will be used and samples of the lists.

- List of work procedures on the correct use of materials or components, both off site and on site.
- List of product information with latest revisions.
- Subcontractors involved in the work.
- Subcontractors' quality plans.
- Storage, handling, transport and protection procedures.
- Procedure for registering and reporting non compliances.
- Maintenance procedures and calibration records.
- Certification that completed work complies with specification
- Check list register to ensure all items inspected and non compliances discharged.

261 STONE SAMPLES
• General: Before commencing detailed design, submit labelled samples or arrange for samples that represent the range of variation in appearance to be inspected.

271 FIXING SAMPLES
• General: During detailed design, submit samples of every type. Clearly identify. Include manufacturer's recommended torque figures.
• Shims: Submit dimensions.

281 CONTROL SAMPLES
• General: Complete areas of finished work and obtain approval of appearance before proceeding.
• Size: TBC
• Location: TBC

DESIGN/ PERFORMANCE REQUIREMENTS

325A PRELIMINARY TEST INFORMATION
• Stone type: As clause 110.
- Petrographic examination to BS EN 12407.
- Water absorption coefficient by capillarity to BS EN 1925: 4.5% by wt or better.
- Apparent density to BS EN 1936: Kgm ³ min TBC.
- Open porosity to BS EN 1936: 15% max..
- Flexural strength: to BS EN 13161: MPa TBC.

330 ACCURACY OF ERECTION
• Elevation joint widths: Within joint lengths, including in-line continuations across transverse joints, as follows:
- Tolerance: Joint width +/-2mm.
- Variations: Evenly distribute, with no sudden changes.
• Offset in elevation: Between nominally in-line edges across transverse joints not to exceed 1mm.
• Offset in plan or section: Between flat faces or adjacent panels across joints not to exceed 1mm.
• Sealant joints width limitations: To recommendations of sealant manufacturer.
• Finished work: Square, regular, true to line and plane with satisfactory fit at junctions.

FABRICATION AND INSTALLATION

510 GENERALLY
• Location of joints: Joints must occur only at positions indicated on final detailed drawings.
• Electrolytic corrosion: Isolate dissimilar metals.
• Prefabrication: Machine cut and drill products in workshop wherever possible.
• Identification: Mark or tag products. Do not mark surfaces visible in the complete installation.
• Natural bed: Indicate on a non exposed surface of each stone.
• Cleanliness: Keep facework clean. Rubbing to remove marks and stains not permitted.

520 CUTTING OF STONE
• Standard: To BS 8298-1 and -2 and BS EN 1469 for production generally, including permissible deviations.
• Bedding: Appropriate to position.
• Oversize stones: Leave selected stone units oversize, to accommodate deviations within building structure. Cut to precise dimensions taken on site.
- Selected units: Clearly identify on shop drawings.

530 INSPECTION OF STONE UNITS
• Give notice:
- At appropriate stages of production.
- Before dispatch to site.

540 SUITABILITY OF STRUCTURE
• Contractor's survey:
- Programme: Not less than 4 weeks before commencement of cladding installation.
- Scope: Geometric survey of supporting structure, checking line, level and fixing points.
- Coordinate: With surveys for adjacent cladding.
- Give notice: If the structure will not allow the required accuracy or security of erection.
• Setting out: Establish erection datum points, lines and levels for a complete elevation at a time unless otherwise agreed.

550 INSTALATION OF INTERFACES
• General: Locate flashings, closers etc. correctly with neat overlaps to cladding to form weatherproof junctions.

560 METALWORK
• Material standards and fabrication: As relevant BS

580 FIXING
• Torque figures and shim dimensions: Do not exceed fixing manufacturer's recommendations.
• Grouting: Use neutral curing mastic or flexible cement based grout as recommended by Kirk Natural Stone Developments Ltd.
• External cladding: Do not use mortar spacer dabs. Keep cavity clear of debris.
• Give notice:
- Before covering up loadbearing fixings.
- Before proceeding with next course on completion: Not required.

595 MASTIC/CEMENT GROUT JOINTING
• General: As section Z21.
• Mix: Pre-mixed grout or neutral cure mastic as recommended by Kirk Natural Stone Developments Ltd.
• Preparation: Wet stones thoroughly.
• Laying: Ensure joints fully filled with no voids.
- Cavities: Clear of mastic/grout.
• Appearance: Neat and consistent.
• Temporary distance spacers: Remove.

620 SEALANT MOVEMENT/OTHER JOINTS
• Sealant: Silicone .
- Class to BS ISO 11600: F 12,5P .
- Colour: to match stone .
- Other requirements: None .
- Application: As section 595.
• Joint widths: Where not specified, to be as small as practicable. Allow for shrinkage, thermal and other movements in structure and cladding.