TerraClad™ General Specifications

PRODUCT NAMES:
Rain Screen Panels and Related Work

MANUFACTURER:
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TECHNICAL SPECIFICATIONS:
CLAY PANEL WALL CLADDING SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. The work of this section includes, but shall not be limited to, unitized (panelized) cladding system, a component of the exterior cladding system, consisting of the following:
   1. Aluminum vertical track and clip (secondary support) system.
   2. Extruded hollow clay panels.
   3. Silicon gaskets and isolators.
   4. Anchors, fasteners, flashings, weatherseals, cover plates and formed metal trim through and at the perimeter of the clay panel cladding system and other accessories required for a complete installation.

B. Related work:
   1. Division 3, Cast-in-place and precast concrete.
   2. Division 4, Unit masonry assemblies.
   3. Division 5, Cold-formed metal framing.
   4. Division 6, Exterior sheathing, Rough Carpentry.
   5. Division 7, Insulation, flashings, firestop systems, air and vapor barriers, and joint sealers.
   6. Division 8, Exterior aluminum curtain wall framing, windows, and glass and glazing.

1.2 SYSTEM DESCRIPTION

A. Extruded hollow core clay (terra cotta) panels hung on a pre-engineered aluminum track system with aluminum clip supports, gaskets, and trim.
   1. The system shall consist of clay panels supported by extruded aluminum clips attached to aluminum vertical track.
   2. Terra cotta panels, which can only be removed on purpose, shall be attached to vertical track at base channels and head grooves with extruded aluminum clips wrapped with a silicone isolator.
   3. Silicone gaskets inserted into vertical track and silicone isolators wrapped around clips provide color consistent or shadow line at vertical joint (custom color or standard black) and compression bubbles in each maintain panel position across the façade and prevent wind induced rattle.
   4. Track to be attached to specified portion of wall assembly structurally sufficient to carry the clay panel wall cladding system and associated loads.

B. System shall be designed as a "rain screen" to allow for the following:
   1. Pressure equalization in the air space behind the clay panel.
   2. Movements within the structure, as specified in 1.3 Performance Requirements of this Section, and to fit within the space allotted without projections into adjacent finished space.

C. Flatness: System shall be flat with no noticeable warp, buckling, deflections or other surface irregularities within manufacturer’s specified tolerances.

D. Design Criteria: Clay panel wall cladding system to be based on architect's drawings and specifications, (contract documents), which indicate sizes, profiles, finishes, and dimensional requirements of the exterior clay panel wall cladding system and are based on specified types/models.

1.3 PERFORMANCE REQUIREMENTS

A. General: Design, fabricate and install components so that the completed exterior wall system will withstand live loads, the inward and outward pressures specified, and loads stipulated by the Building Code in effect for this Project. Geographic regions prone to specific hydrologic, geologic, seismic, wind or other natural events may require project specific testing and design.
   1. The system shall have a design load of positive and negative pressures up to 45 psf when tested in accordance with ASTM E330.
   2. Deflections within the system are to be limited to L/175 of their clear span or 5/8", whichever is less when tested in accordance with ASTM E 330.

B. Movement: Design, fabricate and install system to withstand building seismic and thermal movements including deflections, temperature change without buckling, distortion, joint failure, panel fallout or breakage or undue stress on system components, anchors or permanent deformation of any kind in accordance with AAMA 501.4 for Static Seismic and Wind Induced Interstory Drifts, and AAMA 501.6 for Dynamic Seismic Drift.

C. Infiltration/Penetration: The work of this Section shall be constructed to prevent air and water infiltration as outlined below:
   1. Air Infiltration: ASTM E 283. Allowable air infiltration will be 0.06 cfm or less per square foot when tested under a constant pressure of 6.24 psf.
   2. Water Penetration: ASTM E 331. No uncontrolled water penetration shall occur when tested in static and dynamic modes, under a constant pressure of 15 psf with 5 gallons of water per hour applied per square foot for a period of 15 minutes.
   3. The complete system is to be designed to evacuate any moisture which penetrates beyond the outside surface materials and to weather proof with membrane flashing around all perimeters and openings through the system.

1.4 SUBMITTALS

A. Shop Drawings shall be submitted for approval prior to fabrication including:
   1. One drawing for each panel, baguette, louver or other terra cotta unit type indicating profile, schedule of lengths, thickness, finish, color and color of any adjacent, visible gasket.
   2. Elevations for each condition indicating clay panel and vertical track locations.
   3. Section drawings, if necessary, to convey proper fabrication/installation for terra cotta unit types (panel, baguette, louver, etc.).
   4. Shop drawings for wall assembly to receive clay panel wall cladding system to be coordinated with clay panel wall cladding system shop drawings.

B. Samples: 3 sets of the following samples in the selected finishes and color.
   1. Initial color, texture selection, if custom, will be submitted on a 6"x 6"x 5/8" tile. Standard colors may be selected from manufacturer's color

board.
2. One 12” long by full size profile of each type of panel. Samples shall represent the full range of color and texture proposed for the Work.
3. 12-inch long by full profile sample of each type sheet metal trim and closure piece.

C. Product Data: Manufacturer’s latest published literature describing each product selection.
D. Project Specific Tests: If Project Specific Test are required:
1. Manufacturer and fabricator to certify that performance tests specified have been performed and that products or systems, including finishes, comply with specified requirements.
2. Submit 2 copies of test reports, prepared by the testing agency, for each specified test showing required performance criteria and test results. Include reports of failures and remedial actions taken in test reports. Arrange with the testing agency to prepare test reports in accordance with reporting procedures described in the Project Specified Test Standards.

1.5 QUALITY ASSURANCE

A. Installer/Fabricator Qualifications: Engage an experienced Installer/Fabricator, who has specialized in the erection and installation of types of systems similar to that required for this Project, to erect the exterior clay panel wall cladding system.
1. Installer/Fabricator shall be an approved company as recommended by the manufacturer who has engaged in similar work for a period of no less than 5 years.

B. Manufacturer's qualifications: Engage a Manufacturer experienced in the manufacture of clay panel wall cladding system similar to those indicated for the Project, and with a record of successful in-service performance.
C. Single responsibility:
1. The clay panel wall cladding system, including panels, vertical track, clips, related gaskets/isolators, shall be provided by the same firm unless otherwise noted by the architect.
2. The clay panel wall cladding system, with all its components, shall have been in use for at least 5 years.
3. Clay panel wall cladding system shall be installed by a qualified panelizing company, or other clay panel wall cladding manufacturer approved installer.

D. Mock Up: Provide one completely assembled wall area, as directed by the Architect/Owner, installed with all related accessories, in composite configurations designed to fulfill the performance criteria, and representative of the design as shown on the Drawings.
1. Extent of mock-up shall be the same as that which will be provided in the final work.
2. Mock-up shall be installed simulating actual construction conditions, including actual structural supports and connections. Use means, methods and techniques proposed for final installation.
3. Locate mock-up in location as directed by the Architect.
4. Personnel assembling mock-up shall be the same personnel that will perform the actual work at the project site.

5. Mock-up shall be subjected to testing criteria specified for final installation.

E. Pre-Construction Compatibility and Adhesion Testing: Submit to joint sealant manufacturers samples of material that will contact or affect joint sealants for compatibility and adhesion testing as indicated below:
   1. Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
      A. Perform tests under normal environmental conditions that will exist during actual installation.

F. Pre-Installation Inspection. Installer to contact manufacturer of clay panel wall cladding system, Owner and Architect, prior to installation of clay panel wall cladding system if site conditions adverse to proper installation of the system exist.

1.6 HANDLING

A. Protect components from adverse job conditions prior to installation.
B. Protect components from other trades after installation.
C. Storage:
   1. Store components on platforms or pallets, covered with tarpaulins or other suitable weather-tight ventilated covering. Store components so that water accumulations will drain freely.
   2. Do not store clay panels in contact with other materials that might cause staining, surface damage, or other deleterious effect.
   3. Do not stack platforms or pallets one on top of another.

1.7 SPECIAL WARRANTY

A. Manufacturer shall warrant the material of this Section for a period of 10 years from date of Substantial Completion against possible material defects.
B. Installer shall warrant the workmanship of this Section for a period of 2 years from date of Substantial Completion against defects in Workmanship.
C. The installation warranty shall provide that the exterior wall system will remain weather tight during the warranty period and that if any leaks occur due to faulty installation practices, that the system will be repaired or replaced as required to render the system weather-tight, at no cost to the Owner. The warranty shall cover labor and materials.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURER/INSTALLER

A. Subject to compliance with requirements, manufacturer offering exterior clay wall cladding system that may be incorporated in the work include the following:
   1. Boston Valley Terra Cotta USA (tel. 888-214-3655, 716.649.7490 - www.bostonvalley.com)
   2. Or approved equal.
B. Subject to compliance with requirements, installers offering exterior wall system that may incorporate the clay panel wall cladding system into the work include the

following:

1. **LIST APPROVED INSTALLER HERE**
2. Or approved equal.

2.2 MATERIALS

A. Hollow clay panel units complying with the following:
   1. Finish: Standard.
   2. Size: As indicated on the Drawings.
   3. Color: To be selected.

B. Fasteners, clips, and vertical track: In accordance with manufacturer's recommendations to meet performance criteria specified.

C. Vertical track:
   1. Aluminum alloy 6105 T5, mill finished.

D. Flashing, Trim and other Accessories: Shop-fabricated, corrosion-resistant type capable of complying with the performance criteria specified and designed to allow adjustments of system prior to being permanently fastened.

E. Supporting system fastening method: Complete, pre-engineered aluminum track, clip, complying with the following.
   1. Panels fastened at head grooves and base channels using aluminum clips inserted into vertical track.
   2. The aluminum vertical track is fastened to the building wall system as shown on the Construction Documents or Installation Contractor’s Shop Drawings.
   3. The replacement of damaged panels, particularly in the field, must be possible using simple methods and shall not require special tools nor damage the surrounding panels.
   4. Silicone gaskets, where visible and required, shall be colored to match the panel or as specified by the architect.

2.3 MISCELLANEOUS MATERIALS

A. Touchup material: As furnished by the clay panel manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Clay Panel Wall Cladding installer to examine conditions affecting the work of this Section at site. If any conditions exist that would be detrimental to proper installation of clay panel wall cladding system, installer is to notify Architect and General Contractor / Construction Manager in writing.

B. Correct conditions detrimental to the proper and timely completion of this work before proceeding with installation.

3.2 INSTALLATION

A. Do no install broken, chipped or cracked units.

B. Apply coat of bituminous paint on concealed aluminum surfaces to be in contact with steel, cementitious, and dissimilar materials.

C. Install clay panel cladding system to wall assembly specified in accordance with the approved shop drawings and their manufacturer's instructions.

D. Conceal fasteners.
E. Place clay panel units in stack bond to lines and levels, plumb, with uniform, parallel joints, in accordance with their manufacturer's instructions.
    1. Use caution to prevent damage to clay panel units.
    2. When field-cutting, use caution to ensure that cuttings do not remain on exposed surfaces. Cut edges shall be sharp, without spalling.
    3. Cutting shall be performed with a diamond tipped wet saw.
F. Ensure that assembly is plumb, level and free of warp or twist; maintain dimensional tolerances and alignment with adjacent work.
G. Built-in work:
    1. As work progresses, build in flashing and other items.
    2. Where applicable, remove protective film from finished aluminum surfaces.
H. Tolerances: Accurately align and locate components to column lines and floor levels; adjust work to conform to the following tolerances.
    1. Plumb: 1/8-inch in 10 feet; 1/4-inch in 40 feet; non-cumulative.
    2. Level: 1/8-inch in 20 feet; 1/4-inch in 40 feet; non-cumulative.
    3. Alignment: Limit offset to 1/16-inch where surfaces are flush or less than 1/2-inch out of flush, and separated by less than 2 inches (by reveal or protruding work); otherwise limit offsets to 1/8 inch.
    4. Location: 3/8-inch maximum deviation from measured theoretical location (any member, and location).
    5. Lipping between units: 1/16 inch maximum.

3.3 CLEANING

A. Clean soiled surfaces using materials which will not harm clay panel units or adjacent materials, as recommended by the clay panel manufacturer (clean with mild detergent using a natural bristle brush, starting from top of building to the bottom). Use non-metallic tools in cleaning operations. Pressure washer not to exceed 1200 psi.
B. Upon completion of installation, remove protective coatings or coverings and clean aluminum surfaces, exercising care to avoid damage of finish.
C. Remove excess sealant compounds, dirt or other foreign substances.
D. Remove and replace clay panel units that are broken, chipped, cracked, abraded or damaged during construction period. Reinstall in accordance with their manufacturer's instructions.

END OF SECTION