

**SECTION 07 42 00**  
**GLASS RAINSCREEN SYSTEMS**

**PART 1 – GENERAL**

**1.01 Summary**

- A. Section Includes: Light Weight, Large Panel, Glass Wall Panels with lightweight aerate concrete backer / including installation anchors and accessories.
  - 1. Alsecco Glass Panels natural stone with aerated concrete backer reinforced wall panel system(s)
    - a. Exterior Glass Composite Reinforced Wall Panel System – 30mm nominal total thickness dimension
- B. Related Sections:
  - 1. Section 05 40 00 – Cold Formed Metal Framing
  - 2. Section 07 20 00 – Thermal Protection
  - 3. Section 07 62 00 – Sheet Metal Flashing and Trim
  - 4. Section 07 92 00 – Joint Sealant
  - 5. Section 09 23 00 – Gypsum Plastering

**1.02 References (Industry Standards)**

- A. ASTM E 283 Test Method for Rate of Air Leakage
- B. ASTM E 331 Test Method for Water Penetration
- C. AAMA 501.1 Test Method for Dynamic Water Penetration
- D. ASTM E-84 Test Method for Measuring Flame Spread

**1.03 System Description**

- A. Panel System Performance Requirements:
  - 1. AAMA 501.1 Standard Test Method for Water Penetration of Windows, Curtain Walls, and Doors Using Dynamic Pressure
  - 2. AAMA 501.5 Standard Test Method for Thermal Cycling
  - 3. AAMA 508-07 Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems
  - 4. ASTM E283-04 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
  - 5. ASTM E331-00(2009) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
  - 6. ASTM E330-02(2010) Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
  - 7. ASTM C 880-09 Flexural Strength

**SECTION 07 42 00**  
**GLASS RAINSCREEN SYSTEMS**

- 8. **ASTM C 297** Bond Strength Flatwise Tensile Strength Testing
- 9. **ASTM C 67** Freeze/Thaw 50 Cycles
- 10. **ASTM C 1354** Anchor Pull Out Strength Dry and Wet Condition
- 11. **ASTM E 84** Flame Spread

**1.04 Submittals**

- A. Submit the following in accordance with Section.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - a. Preparation instructions and recommendations.
  - b. Storage and handling requirements and recommendations.
  - c. Installation methods.
- C. Shop Drawings: Submit plan, section, elevation and perspective drawings necessary to describe and convey the panel layout, profiles and system components, including edge conditions, joints, fixture locations, anchorage, accessories, finish colors, patterns and textures.
- D. Engineering Calculations: 3 copies of design calculations showing conformance with the specified Performance Requirements, signed and sealed by a structural licensed engineer.
- E. Verification Samples:
  - a. For each finish product specified, two full-size brick samples representing actual product, color, and patterns.

**1.05 Warranty**

- A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.
- B. Manufacturer's Product Warranty: Submit, for Owner's acceptance, manufacturer's warranty as follows:
  - 1. Warranty Period: Ten (10) years from Date of Substantial Completion that the panel will be free from defects in lamination or separation of panel components.

**1.06 Quality Assurance**

- A. Qualifications:
  - 1. Manufacturer Qualifications: Manufacturer shall have a minimum of 10 years demonstrated capability to produce natural stone concrete reinforced wall panel system of the quality and scope required. Manufacturer shall have completed independent laboratory tests verifying performance capabilities and shall be able to furnish a list of references and previous projects of similar size and scope. Manufacturer must have acceptance by the appropriate building code authority with established ongoing building authority quality control.
  - 2. Installer Qualifications: Installer to demonstrate experience (as determined by contractor) to perform work of this section and who has specialized in the installation of work

**SECTION 07 42 00**  
**GLASS RAINSCREEN SYSTEMS**

similar to that required for this project and is deemed acceptable to product manufacturer.

- B. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

**1.07 Delivery, Storage, and Handling**

- A. . Deliver exterior wall system components packaged to comply with manufacturer's requirements and adequately protected from damage during shipment.
- B. Protect components from adverse job conditions prior to installation.
- C. Stack Panels on pallets, covered with tarpaulins or other suitable weathertight ventilated covering. Avoid standing water. Store components so that water accumulations will drain freely.
- D. Remove all labels and stickers immediately after installation. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

**PART 2 – PRODUCTS**

**2.01 Manufacturers (Acceptable Manufacturers/Products)**

- A. Acceptable Manufacturers: Alsecco Ltd. Distributed by:  
Telling Architectural Systems, LLC  
Address: 10 Worthington Road, Cranston RI 02921  
Telephone: 866.271.0488 / Fax: 401.632.4801  
Email: kjohnson@tellingarchitectural.com
  - 1. Product
    - a. Alsecco Stone Panels
- B. Alternate (Manufacturers/Products): In lieu of providing below specified base bid/contract manufacturer, provide below specified alternate manufacturers. Refer to Division 1 Alternates Section.
  - 1. Base Bid/Contract Manufacturer/Product: Alsecco Stone Panels, Inc.
    - a. Product: Airtec Stone
- C. Substitutions:
  - 1. General: Refer to Division 1 Substitutions for procedures and submission requirements.
    - a. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
    - b. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid installation and construction delays.
  - 2. Substitution Documentation:

**SECTION 07 42 00**  
**GLASS RAINSCREEN SYSTEMS**

- a. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
- b. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for system performance criteria, and (2) has been engaged in the design, manufacture and fabrication of reinforced stone for a period of not less than ten (10) years, and (3) able to provide a list of previous projects of similar size and scope with references. (Company Name and Contact Information) and (4) confirm acceptance by the controlling building code authority.
  1. Test Reports: Submit independent laboratory test reports verifying compliance with each test requirement for Airtec Stone Concrete Reinforced Wall Panel System required by the project.
- a. Product Sample and Finish: Submit product sample, representative of panel system for the project with specified stone type and finish.
3. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification and documented by a formal change order signed by the Owner and Contractor.

**2.02 Materials**

**A. Lightweight Large Panel Stone Rainscreen System(s):**

1. Material Standard: Natural stone bonded to lightweight aerated concrete having epoxy impregnated glass cloth skins.
2. Stone depth: 5/16" – 3/8" (8mm- 10mm) +- 1/16" (1.6 mm) natural stone
3. Reinforcing: 3/4" (19mm) lightweight aerated concrete bonded with high strength epoxy impregnated reinforced glass cloth.
4. High Strength concealed porcelain anchor base with stainless steel anchors
5. Extruded aluminum grade 606090, including clamps, horizontal supports, vertical T-Channels and adjustable brackets

**2.03 Fabrication**

**A. General:**

1. Fabricate panels as per approved shop drawings for the structure intended to receive panels.

**2.04 Stone Type and Finishes**

SELECTION OF NATURAL STONE FROM LITHODECOR STONES AVAILABLE STONE. SHALL BE MADE BY ARCHITECT (POLISHED, HONED, SANDBLASTED, FLAMED OR TOOLED FINISHES).

**2.05 Source Quality Control**

- A. Source Quality:** Provide Lightweight Large Panel Natural Stone Reinforced Wall Panel System specified herein from a single source.

**SECTION 07 42 00**  
**GLASS RAINSCREEN SYSTEMS**

**PART 3 – EXECUTION**

**3.01 Examination**

- A. Site Verification of Conditions: Contractor to verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Verify modules are sized to receive natural lightweight large panel stone with aerated concrete backer wall panel system in accordance with manufacturer's acceptable tolerances.
1. Field Measurements: Contractor to verify actual measurements/openings by field measurements before fabrication. Confirm recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

EDITORS NOTE: COORDINATE BELOW ARTICLE WITH MANUFACTURER'S RECOMMENDED DETAILS AND INSTALLATION INSTRUCTIONS.

**3.02 Installation**

- A. General: Install natural lightweight large panel stone panels with aerated concrete backer plumb, level, and true to line with manufacturer's prescribed tolerances, shop drawings and installation instructions. Provide supports and anchor in place.
1. Dissimilar Materials: Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.
- B. Related Products Installation Requirements:
1. Sealants (Perimeter): Refer to Section 7 Joint Treatment (Sealants).

**3.03 Protection and Cleaning**

- A. Protection: Protect installed product's finish surfaces from damage during construction. Protect stone facing from damage from harmful contaminants.
- B. Cleaning: Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.