SECTION 07 44 00

AGGREGATE FACED ARCHITECTURAL BUILDING PANELS

S T O N E F L E X

STONE AGGREGATE PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Aggregate faced architectural panels.

B. Fasteners and adhesives.

1.2 RELATED SECTIONS

A. Section 05400 - Cold Formed Metal Framing: Structural stud backing.

B. Section 06100 - Rough Carpentry: Structural stud backing.

C. Section 07212 - Board and Batt Insulation.

D. Section 07900 - Joint Sealers.

E. Section 09260 - Gypsum Board Assemblies: Gypsum sheathing.

1.3 REFERENCES

A. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.

B. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.

C. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

D. ASTM D 790M - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials (Metric).

E. ASTM D 792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.

F. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Shop Drawings: Include elevations and detail sections of installation. Include cutting and setting drawings indicating sizes, dimensions, sections, and profiles of panels; arrangements and provisions for jointing, supporting, anchoring, and bonding panels; and details showing relationship with, attachment to, and reception of related work. Include large-scale details of each system component, anchorage, and fastening device.

D. Selection Samples: Architects selection from full range of color and texture combinations.

E. Verification Samples: For each panel specified, two samples, minimum size 3 inches square, representing actual product, color, and texture.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide products by a manufacturer with experience completing at least five projects of the size, scope and quality required by this project within the last ten years. Provide all aggregate coated architectural panels by a single manufacturer.

B. Installer Qualifications: Not less than three years of successful experience in completing exterior cladding systems similar in material and scope to this project.

C. Mock-Up: Provide a mock-up for evaluation of installation techniques and finished appearance.
1. Finish areas designated by Architect.
2. Do not proceed with remaining work until Architect approves workmanship and overall appearance.
3. Refinish mock-up area as required to produce acceptable work.
4. Approved mock-up may be incorporated into the completed work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver panels in crates on wood pallets and wrapped in plastic sheets.

B. Store panels flat in original shipping crates or on wood pallets under protective cover until needed for installation. Ventilate coverings to avoid condensation. Elevate above grade on level blocking to avoid standing water.

C. Protect panels from scuffing during handling, and apply manufacturer's recommended remedial treatment immediately if panels are soiled or scratched. Carry panels on edge and handle carefully to avoid damage to surfaces and corners.

1.7 WARRANTY

A. See Section 01780 - Closeout Submittals, for additional warranty requirements.

B. Comply with manufacturer's project review requirements and notification procedures to assure qualification for warranty.

C. Provide manufacturer's standard 15-year warranty for non-loadbearing structural integrity of panels.

1.8 Extra Materials

A. See Section 01600 – Product Requirements, for additional provisions.
B. Provide extra material as recommended by the architect and or owner.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: C.E.P. Panels, Inc. c/o Stoneflex Ltd.; 22 E. Chicago Avenue, Suite 210; Naperville, IL 60540. ASD. Tel: (800) 450-6099 or (630) 355-4040. Fax: (630) 355-4995. Email: mark.goetz@cep-panels.com. www.cep-panels.com.

B. Manufacturer approved local distributor representative: To be provided to the specifier by C.E.P. Panels, Inc.

C. Substitutions: Not permitted.

D. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 AGGREGATE FACED ARCHITECTURAL PANELS

A. Panels - General: Chopped glass fiber and granulated calcium carbonate organic filler successively built up, polyester resin impregnated and consolidated, surfaced with a natural stone aggregate resin bonded to panel substrate, then oven cured.
   1. Width: 48 inches.
   2. Width: [__] inches.
   3. Length: As indicated on drawings.
   4. Length: [__] inches.
   5. Nominal Density: 1954 kg/cu m, when tested in accordance with ASTM D 792.
   6. Water Absorption: 1.8 percent, when tested in accordance with ASTM D 790 (ASTM D 790M).
   7. Modulus of Elasticity: 870,000 psi (600,000 MPa).
   8. Tensile Strength: 2400 psi (16.5 MPa), when tested in accordance with ASTM D 638.
   9. Thermal Conductivity (k): 0.161 W/m degree C, when tested in accordance with ASTM C 177.
   10. Impact Strength: 40.61 (76 mm diameter ball at 17 degrees C).
   11. Flame Spread: 15, when tested in accordance with ASTM E 84.
   12. Fuel Contribution: 0, when tested in accordance with ASTM E 84.
   13. Texture: Ultra Fine Grade Aggregate.
   14. Texture: Fine Grade Aggregate.
   15. Texture: Standard Grade Aggregate.
   16. Texture: Large Grade Aggregate.

B. Ultra Fine Grade Aggregate Panels:
   1. Nominal Panel Thickness: 1/4 inch.
   2. Nominal Substrate Thickness: 3/16 inch.
   3. Approximate Panel Weight: 2.2 lb/sq ft.
   4. Color: Boston Brick.
   5. Color: Indian Ivory.
   6. Color: Off White.
   7. Color: Sahara Beige.
   8. Color: Smokey Mountain Grey.
   9. Color: Sparkling White.
   10. Color: Yellow.

C. Fine Grade Aggregate Panels:
   1. Nominal Panel Thickness: 5/16 inch.
   2. Nominal Substrate Thickness: 3/16 inch.
   3. Approximate Panel Weight: 2.6 lb/sq ft.

4. Color: Swedish Green.
5. Color: Arctic Pink.
6. Color: Bermuda White.
7. Color: Boston Brick.
8. Color: Desert.
9. Color: Dove.
10. Color: French Rouget.
11. Color: Glacier.
12. Color: Indian Ivory.
13. Color: Java.
14. Color: Mexican Pink.
15. Color: Sahara Beige.
16. Color: Smokey Mountain Grey.
17. Color: Nordic Spar.

D. Standard Grade Aggregate Panels:
1. Nominal Panel Thickness: 3/8 inch.
2. Nominal Substrate Thickness: 1/4 inch.
3. Approximate Panel Weight: 3.0 lb/sq ft.
4. Color: Swedish Green.
5. Color: Arctic Pink.
6. Color: Bermuda White.
7. Color: French Rouget.
8. Color: Indian Ivory.
9. Color: Java.
10. Color: Mexican Pink.
11. Color: Sahara Beige.
12. Color: Smokey Mountain Grey.
13. Color: Sunset.
14. Color: Flint.
15. Color: Nordic Spar.

E. Large Grade Aggregate Panels:
1. Nominal Panel Thickness: 1/2 inch.
2. Nominal Substrate Thickness: 5/16 inch.
3. Approximate Panel Weight: 3.5 lb/sq ft.
4. Color: Swedish Green.
5. Color: Bermuda White.
6. Color: Indian Ivory.
7. Color: Mexican Pink.
8. Color: Sahara Beige.
9. Color: Smokey Mountain Grey.

2.3 ACCESSORIES

A. Fasteners:
1. Wood Framing: Stainless steel, length as required for application, heads colored to match panels.
2. Metal Framing: Stainless steel self-tapping screws, length as required for application, heads colored to match panels.

B. Sealants: Silicone or polyurethane joint sealer as specified in Section 07900.

C. Thermal Break: Exterior grade PVC compressive foam tape.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Measure areas of installation prior to fabrication, to minimize out of square or unbalanced border conditions.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Proceed with panel installation only when substrate is completely dry.

3.3 INSTALLATION

A. Install in strict accordance with manufacturer's written instructions. Make adequate provisions for thermal and structural movement.

B. Field Cutting: Perform field cuts with a dry cut diamond blade. Remove edge residue from cutting by using compressed air or a bristle brush.

C. Space fasteners at a maximum of 8 inches on center around the perimeter and a maximum of 12 inches in the field of the panel. Space panels 1/4 in to 3/8 in apart. Support all panel edges on framing members.

D. Seal joints between panels with polyurethane or silicone sealant in accordance with requirements of Section 07900.

3.4 CLEANING AND PROTECTION

A. Clean all panels of dirt, adhesive, and joint sealers, using detergents or solvents as appropriate and as recommended by the manufacturer.

B. Remove and replace any damaged panels and those that cannot be adequately cleaned.

C. Protect installed products until completion of project.

END OF SECTION