

PART 1. GENERAL**1.1 GENERAL PROVISIONS**

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Exterior ultracompact surface panels and attachment system as required for a complete direct-adhere system for the following applications:
 - a. Wall panels.

B. Related Work: Coordinate with the following items which are specified in other sections:

1. Section 06 16 00 - SHEATHING for sheathing behind facade system.
2. Section 07 27 00 - AIR BARRIERS for air barrier behind facade system.
3. Section 07 62 00 - SHEET METAL FLASHING AND TRIM for copings, flashings, and other sheet metal work not part of facade assemblies

1.3 SUBMITTALS

- A. Product Data: Include manufacturer's product specifications, standard details, test results, and general recommendations, as applicable to materials and finishes for each component and for total system assemblies.
- B. Mortar and grout manufacturer's technical data sheets indicating suitability for the installation specified and compliance with applicable standards.
- C. Sealant or prefabricated joint manufacturer's product and technical data.
- D. Verification Samples: Submit two 5"x6" inch samples of each color selected.
- E. Qualified labor: The contractor, by commencing the work of this section, assumes overall responsibility to assure that all assemblies, components, and parts shown or required within the work of this section comply with contract documents and are compatible with each other and with the conditions and expected use. Refer to ANSI A108.19 for contractor qualifications.
- F. Sustainable Design Submittals: Provide GEI GREENGUARD and ISO 14001 certification.

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- G. Extra Stock Materials: Furnish 2% extra stock materials, minimum one full size panel, for each color on the project.

1.4 QUALITY ASSURANCE

- A. Manufacturing Facility: ISO 9001
- B. Installer Qualifications: Engage an experienced installer acceptable to the ultracompact surface panel manufacturer who has completed wall system projects similar in material,
- C. design, and extent to that indicated for this Project and with a record of successful in-service performance.
- D. Mockups: Provide an in-place mock-up of wall system at location on the building acceptable to the Architect. Accepted mock-up may remain in place.
 - 1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
- E. Pre-Installation Meeting: Prior to installation, conduct a pre-installation project meeting. Contractor, Subcontractor, Material Suppliers, Architect and Owner representative shall be notified of the meeting. Review methods and procedures related to wall assemblies.
 - 1. Meet with installers whose work interfaces with or affects panels, including installers of doors, windows, and louvers.
 - 2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review methods and procedures related to installation, including manufacturer's written instructions.
 - 4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
 - 5. Review flashings, special details, wall penetrations, openings, terminations, and condition of other construction.
 - 6. Review temporary protection requirements during and after installation.
 - 7. Review procedures for repair of panels damaged after installation.
 - 8. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's requirements for packaging, delivery, storage, and handling. Use stable, flat pallets that are at least the same dimension as the sheets. Deliver panels in undamaged condition.
- B. Exercise care in unloading, storing, and erecting wall system to prevent bending, twisting, and surface damage.

1.6 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of wall system to be performed according to manufacturers written instructions and warranty requirements.
- B. Field Measurements: Verify field measurements prior to fabrication. Coordinate fabrication schedule with construction to delays due to fabrication and delivery.

1.7 WARRANTY

- A. Warranty: Provide manufacturer's 25-year standard limited warranty.

PART 2. PRODUCTS

2.1 EXTERIOR PANELS

- A. Ultracompact Surfacing Sheet: Dekton by Cosentino USA; Tel 281-494-7277, www.dekton.com. No substitutions allowed.
 - 1. Composition: Flat slabs of selected materials utilizing 25,000-ton press and sintered particle technology (TSP).
 - 2. Dekton Collection: _____
 - 3. Color: _____ As selected from manufacturer's full color range **OR** Custom color as selected.
 - 4. Thickness: 4 mm (0.15 inches) **OR** 8 mm (0.31 inches) **OR** 12 mm (0.47 inches).
 - 5. Sustainable Design Certifications: ISO 14001, GEI GREENGUARD Gold Certified.
 - 6. Fire Performance:
 - a. Non-Combustible: per ASTM E-136
 - b. Flame Spread: non-combustible.
 - c. Smoke Development: non-combustible.

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- d. Ignition Temperature: non-combustible.
- e. Burning Classification: non-combustible.
- f. No Degradation: ASTM E119.g.
- g. NFPA 285: As non-combustible, tested as part of an assembly when combustible materials are present, where required by code. Meets performance requirements for multi-story construction. When required for compliance with local building codes, the wall cladding assembly shall not ignite when exposed to a radiant heat energy source, NFPA 268.

7. Physical Characteristics:

- a. Moisture Expansion: 0.005 percent minimum, tested to ASTM C370.
- b. Breaking Strength: 448 lbf minimum, tested to ASTM C648.
- c. Flexural Strength: 7100 psi minimum, tested to ASTM C674.
- d. Water Absorption: 0.03 percent maximum, tested to ASTM C373.
- e. Resistance to Wear: 182.2 average wear index, tested to ASTM C501.
- f. Thermal Shock Resistance: No defects, tested to ASTM C484.
- j. Bond Strength: 423 psi average, tested to ASTM C482.
- h. Specific Absorption and Gravity, tested to ASTM C97/C97M: Average percent of absorption per weight 0.02 percent; average density 156 pounds per cubic foot.
- i. Breaking Module, tested to ASTM C99/C99M: Average dry breaking strength 8128 PSI; average wet breaking strength: 7490 PSI.
- j. Flexural Strength, tested to ASTM C880: Average dry flexural strength 6840 PSI; average wet flexural strength 6205 PSI.
- k. Resistance to Compression, tested to ASTM C170/C170M: Average dry compression 34,409 PSI; average wet compression 17,823 PSI.
- l. Resistance to Abrasion, tested to ASTM C1353/C1353M: 349 average abrasion index.
- m. Resistance to Chemical Substances; tested to ASTM C650: Per manufacturer's published data.
- n. Humidity Resistance: No formation of blisters when subjected to condensing water fog at 100% relative humidity and 100-degree F (38 degree C) for 3000 hours, ASTM D 2247.
- o. Salt Spray Resistance: At the completion of a 300-hour ASTM B117 test, results indicate no deleterious effects as defined by the test standard.
- p. Weather Exposure: Minimum 5000 hours in Q-Sun Accelerated Weathering Type Weatherometer using cycle of 90 minutes light and 30 minutes diminished light and demineralized water with a maximum color change of 1 Delta E units from original color
- q. Salt Spray Resistance: AT the completion of a 300-hour ASTM B117 test, results indicate no deleterious effects as defined by the test standard.
- r. Weather Exposure: Minimum 5000 hours of Q-Sun Accelerated Weathering Type Weatherometer using cycle of 90 minutes light and 30 minutes diminished light and demineralized water with a maximum color change of 1 Delta E units from original color.

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B. Setting and Mounting Material:

- a. Use appropriate installation mortars according to ANSI A118-2014.
- b. Grouting Materials: Select grouting materials according to the following types: Tile setting and grouting epoxy: A118.6-2010 Standard Cement Grout, A118.7-2010, High Performance Cement Grout or A118.8-2010, Modified Epoxy Emulsion Grout. Provide grout in colors selected by the Architect from standard colors available from the approved manufacturers.
- c. Use waterproofing/Anti Fracture Membrane as required according to ANSI A118.12.

C. Expansion Joints, Control, Contraction, and Isolation Joints:

- a. Refer to most current TCNA Handbook, Method EJ171 for recommendations on locating, treating, and detailing various types of construction joints. NOTE: Architect must specify type of expansion joints and show location and details on drawings.
- b. Use sealant complying with ASTM C920 according to Type, Grade, Class and Uses required.
- c. Prefabricated expansion joints can also be used when suitable for installation.

D. Exposed Trim: Extruded aluminum trim as indicated on the Drawings:

1. Finish: Clear anodized aluminum.
2. Finish: Color anodized aluminum.
3. Finish: 2-coat fluoropolymer finish, 70% resin.
4. Finish: 3-coat fluoropolymer finish, 70% resin.
5. Color: As selected by Architect.

2.2 FABRICATION:

A. Comply with manufacturer's standard guidelines.

- d. Panel Dimensions: Fabricate panels under controlled shop conditions to the greatest extent possible. Field fabrication shall be minimized.
- e. Appearance: Panel lines, breaks, and angles shall be true.

PART 3. EXECUTION**3.1 EXAMINATION**

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- A. Examine substrates and conditions, with Installer present, for compliance with requirements indicated for conditions affecting performance of the wall system.
- B. Surfaces to receive panels shall be even, smooth, dry, and free from defects detrimental to the installation of the panel system. Notify Contractor in writing of conditions detrimental to SECTION 07 4200 proper and timely completion of the work.
- C. Confirm load bearing wall surface is plumb and level, with no deviations greater than 1/4 inch (6 mm) in 20 feet (6096 mm). If deviations are greater than this, walls will need to be leveled with settings material company's recommended product prior to installation.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Manufacturers' Instructions: Perform work in compliance with standard accepted installation guidelines, Dekton instructions and setting materials manufacturers' instructions.
- B. Comply with appropriate ANSI A108-2014 specification and current Tile Council of North America Handbook (TCNA) for appropriate method of installation for each specification. For thin set adhesive mortar application use following technique:
- With the flat side of trowel, key mortar into substrate.
 - Using the appropriate size trowel, per TCNA recommendations, comb mortar in the shorter direction with notched side of the trowel.
 - With the flat side of the trowel, key mortar onto the back side of the panel.
 - Using the appropriate size trowel, per TCNA recommendations, comb mortar in straight lines on the shortest direction of the panel.
 - Set panel with a sliding motion, perpendicular to the mortar ridges. Both the mortar ridge on the substrate and on the panel must be in the same direction.
 - Obtain as near 100% coverage as possible of mortar to panel.
 - Mortar coverage shall be no less than 95% and shall be sufficiently distributed to give full support under all corners and edges of the panel.
- B. Install panels plumb and level with accurately spaced distances in accordance with manufacturer's recommendations and approved submittals and drawings.

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- C. Do not install panels or component parts which are observed to be defective or damaged including, but not limited to: warped, bowed, abraded, scratched, and broken members.
- D. Do not cut or trim component parts during installation in a manner that would damage the finish, decrease the strength, or result in visual imperfection or a failure in performance. Return component parts with required alteration to the shop for re-fabrication or replacement.

3.4 ADJUSTING AND CLEANING

- A. Remove masking and panel protection as soon as practical after installation.
- B. Adjust final panel installation so that all joints are true and even throughout the installation. Panels out of plane shall be adjusted with the surrounding panels to minimize any imperfection.
- C. Repair panels with minor damage. Remove and replace panels damaged beyond repair as a direct result of the panel installation.
- D. Clean finished surfaces as recommended by panel manufacturer and grout supplier.

END OF SECTION