SECTION 07 42 43

COMPOSITE WALL PANELS

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\*\* NOTE TO SPECIFIER \*\* Citadel Architectural Products, Inc.; composite laminated building panels.  
This section is based on the products of Citadel Architectural Products, Inc., which is located at:  
6198 West Airport Blvd.  
Greenfield, IN 46140  
Toll Free Tel: 800-446-8828  
Tel: 317-894-9400  
Fax: 800-247-2635  
Email: [request info (info@citadelap.com)](https://arcat.com/rfi?action=email&company=Citadel%252BArchitectural%252BProducts%252C%252BInc.&message=RE%253A%2520Spec%2520Question%2520(07430cap)%253A%2520&coid=31445&spec=07430cap&rep=&fax=800-247-2635)  
Web: <http://www.citadelap.com>   
 [ [Click Here](https://arcat.com/company/citadel-architectural-products-inc-31445) ] for additional information.  
Prior to 1992, Citadel Architectural Products, Incorporated was the Architectural Panels Division of the Weyerhaeuser Company. It was at that time we became a privately held corporation and moved our operations from Tacoma, Washington to a more centrally located facility in Indianapolis, Indiana.  
Then in 1999, a management buyout was initiated as we completed our transition to a completely employee owned company. To date, we have accumulated over 35 years of industry experience in lamination technology. It is this type of experience, along with a commitment to quality, which helped lay the groundwork for obtaining ISO 9001:2000 Certification in 2002.  
We also offer the service that comes with a nationwide representative and distributor network. It is this network that has helped us develop a strong presence in the domestic marketplace as well as providing the groundwork for sending our panels worldwide including: North & South America, Asia, Antarctica, and Europe.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Panel 15. Panel 20, SinoCore Panels, ProCore Panels, and Envelope 2000 panels. Delete if not required for project.

* + 1. Laminated panels and attachment systems for use as exterior cladding.

\*\* NOTE TO SPECIFIER \*\* GlazeGuard, Delete if not required for project.

* + 1. Laminated panels for use as glazing infill or railing-type channel inserts.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 40 00 - Cold-Formed Metal Framing.
    2. Section 06 10 00 - Rough Carpentry.
    3. Section 07 21 19 - Foamed-In-Place Insulation.
    4. Section 07 60 00 - Flashing and Sheet Metal.
    5. Section 07 91 23 - Backer Rods.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):
       1. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus.
       2. ASTM B137 - Standard Test Method for Measurement of Coating Mass Per Unit Area on Anodically Coated Aluminum.
       3. ASTM B211 - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire.
       4. ASTM B680 - Standard Test Method for Seal Quality of Anodic Coatings on Aluminum by Acid Dissolution.
       5. ASTM C267 - Standard Test Methods for Chemical Resistance of Mortars, Grouts, and Monolithic Surfacings and Polymer Concretes.
       6. ASTM C1371 - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
       7. ASTM D714 - Standard Test Method for Evaluating Degree of Blistering of Paints.
       8. ASTM D523 - Standard Test Method for Specular Gloss.
       9. ASTM D968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
       10. ASTM D1308 - Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.

\*\* NOTE TO SPECIFIER \*\* Panel 20 and Envelope 2000 reference standard only. Delete if not required.

* + - 1. ASTM D1781 - Climbing Drum Peel for Adhesives.
      2. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
      3. ASTM D2247 - Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
      4. ASTM D2248 - Standard Practice for Detergent Resistance of Organic Finishes.
      5. ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
      6. ASTM D3359 - Standard Test Methods for Rating Adhesion by Tape Test.
      7. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test.
      8. ASTM D4145 - Standard Test Method for Coating Flexibility of Prepainted Sheet.
      9. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.

\*\* NOTE TO SPECIFIER \*\* Following 4 reference standard are related to Envelope 2000 RR and Envelope RS only. Delete if not required.

* + - 1. ASTM E72 - Strength Tests for Panels for Building Construction.
      2. ASTM E84 - Surface Burning Characteristics.
      3. ASTM E108 (Modified) - Standard Test Methods for Fire Tests of Roof Coverings.
      4. ASTM E331 - Test for Water Penetration of Exterior Walls by Uniform Static Air Pressure Difference.

\*\* NOTE TO SPECIFIER \*\* Envelope 2000 RR reference standard only. Delete if not required.

* + - 1. ASTM E283 - Test Method for Rate of Air Leakage through Exterior Walls.
      2. ASTM E903 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
    1. Architectural Aluminum Manufacturers' Association (AAMA):
       1. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
       2. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
       3. AAMA 611-98 - Voluntary Specification for Anodized Architectural Aluminum.

\*\* NOTE TO SPECIFIER \*\* GlazeGuard reference standard only. Delete if not required.

* + 1. Porcelain Enamel Institute (PEI):
       1. PEI S-100 - Specification for Porcelain Enamel on Steel.
  1. SYSTEM DESCRIPTION
     1. Panel Performance:

\*\* NOTE TO SPECIFIER \*\* General provisions for panel performance.

* + - 1. Design wall system to withstand a positive and negative wind load pressure acting inward and outward normal to the plane of the wall to meet the requirements of the latest adopted Local Building Code.
      2. Make adequate provisions in the wall system for thermal expansion and contraction of the component parts and fastening of the system to prevent harmful damage caused by buckling, opening of joints, contraction and expansion due to accumulation of dead loads and variations of live loads.
      3. Panel's exposed finishes shall perform according to AAMA 2603-98, AAMA 2605-98 as applicable.
      4. Exposed anodized aluminum according to AAMA 611-98.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Material Certification: Two copies certifying that material meets the requirements specified.
        2. Manufacturer's Literature: Two copies of manufacturer's literature for panel material.
        3. Test Reports: Two copies of third party test reports on specified physical and performance standards.
        4. Preparation instructions and recommendations.
        5. Storage and handling requirements and recommendations.
        6. Installation methods.
     3. Shop Drawings: Indicate thickness and dimension of parts, fastening and anchoring methods, detail and location of joints, including joints necessary to accommodate thermal movement.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
       1. Panel: Two samples of each type of assembly.
       2. Color Standards: Two samples of each color of finish selected.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Manufacturer shall have a minimum of ten years experience in the manufacture of composite architectural wall systems and have ISO 9001:2000 Certification.
     2. Installer Qualifications: Installer shall be experienced in performing work of this section and be specialized in the installation of similar work required on this project.
     3. Pre-Installation Meetings: Conduct pre-installation meetings to verify project requirements, substrate condition, installation instructions and warranty requirements. Comply with Division 1 - Project Management and Coordination, Project Meetings Section.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
       3. Refinish mock-up area as required to produce acceptable work.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.
     2. Deliver, store and handle panels and other components so they will not be damaged or deformed. Package all panels for protection against transportation damage.
     3. Storage and Protection: Stack materials on platforms or pallets, covered with suitable ventilated covering. Do not store panels to accumulate water or be in contact with other materials that might cause staining, denting or other surface damage.
     4. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
  2. PROJECT CONDITIONS
     1. Field Measurements: When possible, measurements should be taken prior to the completion of shop manufacturing and assembly.
     2. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
  3. WARRANTY
     1. Manufacturer's Warranty: Furnish panel manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and not a limitation of other rights Owner may have under the Contract Documents.

\*\* NOTE TO SPECIFIER \*\* Panel 20, Sinocore, ProCore, GlazeGuard, Envelope 2000. Delete if not required.

* + 1. Panel Lamination Warranty: Five years commencing on Date of Substantial Completion.

\*\* NOTE TO SPECIFIER \*\* Panel 15. Delete if not required.

* + 1. Panel Lamination Warranty: Fifteen years commencing on Date of Substantial Completion.
    2. Finish Warranty:

\*\* NOTE TO SPECIFIER \*\* Delete finish warranty not required.

* + - 1. Polyester: Five years.
      2. Kynar 500: Twenty years.
      3. Kynar 500 Metallic: Twenty years.
      4. Anodized: Twenty years.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Citadel Architectural Products, Inc., which is located at:  
         6198 West Airport Blvd.  
         Greenfield, IN 46140  
         Toll Free Tel: 800-446-8828  
         Tel: 317-894-9400  
         Fax: 800-247-2635  
         Email: [request info (info@citadelap.com)](https://arcat.com/rfi?action=email&company=Citadel%252BArchitectural%252BProducts%252C%252BInc.&message=RE%253A%2520Spec%2520Question%2520(07430cap)%253A%2520&coid=31445&spec=07430cap&rep=&fax=800-247-2635);Web: <http://www.citadelap.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
       1. Acceptable Alternatives: Panels of similar composition providing manufacturer has a minimum of ten years experience.
       2. The materials and products specified in this section establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.
       3. No substitution will be considered unless written request for approval has been submitted by the bidder and has been received by the Architect ten days prior to the date for receipt of bids.
       4. Each request shall include the name of the materials and a complete description of the proposed material, including test performance and any other information necessary for evaluation.
  1. EXTERIOR WALL PANELS AND SYSTEMS

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Panel 15 Prefinished Architectural Panels as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:
         1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
         2. Core: 5/16 inch (8 mm) nominal exterior grade Douglas fir plywood.

\*\* NOTE TO SPECIFIER \*\* Delete back skin not required.

* + - * 1. Back Skin: .008 inch (0.2 mm) kraft/foil fiberglass reinforced scrim.
        2. Back Skin: .010 inch (.25 mm) primed textured aluminum backer.
      1. Panel Thickness: 5/16 inch (8 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (3 mm).
         3. Squareness: 1/64 inch per lineal foot (0.4 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

\*\* NOTE TO SPECIFIER \*\* Delete installation system not required.

* + - 1. Installation System: One piece molding.
         1. Field-assembled system of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Trim Moldings:

PA-8X Outside Corner.

PA-9X Inside Corner.

PA-12X Horizontal / Vertical.

PA-15BX Perimeter J.

* + - 1. Installation System: Two piece molding.
         1. Field-assembled system of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Trim Moldings:

ST-601MX Horizontal / Vertical R20-401 Receiver.

ST-603MX Perimeter J, R20-403 Receiver.

ST-605MX Inside Corner, R20-404 Receiver.

ST-607MX Outside Corner, R20-405 Receiver.

SR-701MX Horizontal / Vertical (Reveal) R20-406 Receiver.

SR-703MX Perimeter J (Reveal), R20-407 Receiver.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Panel 20 Prefinished Architectural Panels as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - * 1. Bond Integrity: Test per ASTM D1781. peel strength of 34.5 lb-in per lb (8.6 N-m per kg).
      1. Panel Composition:
         1. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
         2. Core: .075 inch (1.9 mm) thermoset phenolic resin.
         3. Back Skin: .024 inch (0.6 mm) primed smooth aluminum backer.
      2. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 3/16 inch (4.8 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees F (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Test per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Installation System: Two piece molding.
         1. Field-assembled system of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Trim Moldings:

C20-401 Horizontal / Vertical R20-401 Receiver.

C20-402 Horizontal / Vertical R20-401 Receiver.

C20-403 Perimeter J, R20-403 Receiver.

C20-404 Inside Corner, R20-404 Receiver.

C20-405 Outside Corner, R20-405 Receiver.

C20-406 Horizontal / Vertical (Reveal), R20-406 Receiver.

C20-407 Perimeter J (Reveal), R20-407 Receiver.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: SinoCore Prefinished Architectural Panels as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Core: 5/32 inch (4 mm) high density polypropylene.
        4. Back Skin: .010 inch (0.25 mm) primed textured aluminum backer.
      1. Panel Thickness: 5/32 inch (4 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: plus or minus 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (1.5 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees F (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Installation System: One piece molding.
         1. Field-assembled system consisting of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Trim Moldings:

E-301 Horizontal / Vertical.

E-302 Outside Corner.

E-303 Inside Corner.

E-304 Perimeter J.

E-305 Drip Edge.

E-306 Horizontal / Vertical (Reveal).

* + - 1. Installation System: Two piece molding.
         1. Field-assembled system consisting of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Trim Moldings:

C20-401 Horizontal / Vertical R20-401 Receiver.

C20-402 Horizontal / Vertical R20-401 Receiver.

C20-403 Perimeter J, R20-403 Receiver.

C20-404 Inside Corner, R20-404 Receiver.

C20-405 Outside Corner, R20-405 Receiver.

C20-406 Horizontal / Vertical (Reveal), R20-406 Receiver.

C20-407 Perimeter J (Reveal), R20-407 Receiver.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: SinoCore PanelGrip Prefinished Architectural Panels as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Core: 5/32 inch (4 mm) high density polypropylene.
        4. Back Skin: .024 inch (0.6 mm) primed smooth aluminum backer.
      1. Panel thickness: 1/8 in (3 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (3 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees F (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Installation System: One piece molding.
         1. Field-assembled system consisting of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: ProCore Prefinished Architectural Panels as manufactured by Citadel Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Core: 9/32 inch (7mm) high density polypropylene.

\*\* NOTE TO SPECIFIER \*\* Delete back skin not required.

* + - * 1. Back Skin: .010 inch (0.25 mm) primed textured aluminum backer.
        2. Back Skin: .024 inch (0.6 mm) primed smooth aluminum backer.
      1. Panel Thickness: 5/16 inch (7.9 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (1.5 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees F (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

\*\* NOTE TO SPECIFIER \*\* Delete installation system not required.

* + - 1. Installation System: One piece molding.
         1. Field-assembled system of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Trim Moldings:

PA-8X Outside Corner.

PA-9X Inside Corner.

PA-12X Horizontal / Vertical.

PA-15BX Perimeter J.

* + - 1. Installation System: Two piece molding.
         1. Field-assembled system of exterior cladding panels, trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Trim Moldings:

ST-601MX Horizontal / Vertical R20-401 Receiver.

ST-603MX Perimeter J, R20-403 Receiver.

ST-605MX Inside Corner, R20-404 Receiver.

ST-607MX Outside Corner, R20-405 Receiver.

SR-701MX Horizontal / Vertical (Reveal) R20-406 Receiver.

SR-703MX Perimeter J (Reveal), R20-407 Receiver.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. GlazeGuard 250 Opaque Glazing Panels as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Core: 3/16 inch (4.8 mm) hardboard (or equivalent).

\*\* NOTE TO SPECIFIER \*\* Delete back skin not required.

* + - * 1. Back Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Back Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Back Skin: 28 ga (0.378 mm) porcelain enamel steel per PEI S-100
      1. Panel Thickness: 1/4 inch (6 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (1.5 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Attachment System: To be used as glazing infill or inserted into encapsulating watertight channel.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. GlazeGuard 250 WR Water Resistant Opaque Glazing Panels as manufactured by Citadel Architectural Products, Inc.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Core: 3/16 inch (4.8 mm) hardboard (or equivalent).

\*\* NOTE TO SPECIFIER \*\* Delete back skin not required.

* + - * 1. Back Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Back Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
      1. Panel Thickness: 1/4 inch (6 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (1.5 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Attachment System: To be used as glazing infill or inserted into encapsulating watertight channel.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. GlazeGuard 1000 Opaque Glazing Panels as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Face Skin: 28 ga (0.378 mm) porcelain enamel steel PEI S-100.
        4. Face Stabilizer: 1/8 inch (3 mm) hardboard (or equivalent)

\*\* NOTE TO SPECIFIER \*\* Delete core not required.

* + - * 1. Core: 11/16 inch (17.5 mm) expanded polystyrene (EPS) foam.
        2. Core: 11/16 inch (17.5 mm) Isocyanurate (ISO) foam.
        3. Back Stabilizer: 1/8 inch (3 mm) hardboard (or equivalent)

\*\* NOTE TO SPECIFIER \*\* Delete back skin not required.

* + - * 1. Back Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Back Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
      1. Panel Thickness: 1 inch (25.4 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: Plus or minus 1/16 inch (1.6 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (1.5 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Attachment System: To be used as glazing infill or inserted into encapsulating watertight channel.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. GlazeGuard 1000 WR Water Resistant Opaque Glazing Panels as manufactured by Citadel Architectural Products, Inc.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Face Stabilizer: 1/8 inch (3 mm) high density polypropylene.

\*\* NOTE TO SPECIFIER \*\* Delete core not required.

* + - * 1. Core: 11/16 inch (17.5 mm) expanded polystyrene (EPS) foam.
        2. Core: 11/16 inch (17.5 mm) polyisocyanurate (ISO) foam.
        3. Back Stabilizer: 1/8 inch (3 mm) high density polypropylene.

\*\* NOTE TO SPECIFIER \*\* Delete back skin not required.

* + - * 1. Back Skin: .010 inch (0.25 mm) prefinished textured aluminum, painted to match Architect's color selection.
        2. Back Skin: .024 inch (0.6 mm) (minimum) prefinished smooth aluminum, painted to match Architect's color selection.
      1. Panel Thickness: 1 inch (25.4 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: Plus or minus 1/16 inch (1.6 mm).
         2. Length and Width: Plus 0, minus 1/8 inch (1.5 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Attachment System: To be used as glazing infill or inserted into encapsulating watertight channel.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. GlazeGuard 1000 FR Fire Resistant Opaque Glazing Panels as manufactured by Citadel Architectural Products, Inc.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - 1. Panel Composition:

\*\* NOTE TO SPECIFIER \*\* Delete face skin not required.

* + - * 1. Face Skin: .010 inch (0.25 mm) prefinished textured aluminum.
        2. Face Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
        3. Face Stabilizer: 1/8 inch (3 mm) hardboard (or equivalent).
        4. Core: 3/16 inch (4.8 mm) isocyanurate (ISO) foam.
        5. Back Stabilizer: 5/8 inch (16 mm) type-X gypsum board.
        6. Back Skin: .024 inch (0.6 mm) prefinished smooth aluminum.
      1. Panel Thickness: 1 inch (25.4 mm) nominal.
      2. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 3/16 inch (4.8 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      3. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees F (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No. 6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Attachment System: To be used as glazing infill or inserted into encapsulating watertight channel.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. GlazeGuard 1000 IR Fire Resistant Opaque Glazing Panels as manufactured by Citadel Architectural Products, Inc.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - * 1. High Velocity Hurricane Zone (HVHZ): Comply with Section 1606, 1620, and 1626 of the Florida Building Code and TAS 201, 202, and 203 for assemblies up to and including 30 ft.
      1. Panel Composition:
         1. Face Skin: .024 inch (0.6 mm) pefinished smooth aluminum.
         2. Stabilizer: 0.4 inch (10 mm) high density polypropylene.
         3. Core: 0.16 inch (4 mm) isocyanurate (ISO) foam.
         4. Stabilizer: 0.4 inch (10 mm) high density polypropylene.
         5. Back Skin: .024 inch (0.6 mm) prefinished smooth alumin.um.
      2. Panel Thickness: 1 inch (25.4 mm) nominal.
      3. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 3/16 inch (4.8 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      4. Finish: High performance, baked-on polyester coating.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Composition: 0.2 mil primer coat, 0.8 mil color coat.
        4. Performance:

Gloss: Test per ASTM D523. 5 to 80 at 60 degrees (15.6 degrees C).

Pencil Hardness: Test per ASTM D3363. F-2H.

Flexibility: Test per ASTM D4145. 0 to 1 T-bend, no pick off.

Reverse Impact: Test per ASTM D2794. No pick off at 1500 x metal thickness.

Salt Spray Resistance: Test per ASTM B117.

No face blistering; None up to few No.6 edge and scribe blisters when tested at 1000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 1000 hours, None up to few No.8 blistering using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 8 fade and Max 6 chalk at 5 years at 90 degrees, south Florida.

* + - 1. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Attachment System: To be used as glazing infill or inserted into encapsulating watertight channel.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Envelope 2000 RainScreen, Engineered Architectural Wall System as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - * 1. Bond Integrity: Test per ASTM D1781. peel strength of 34.5 lb-in per lb (8.6 N-m per kg).
        2. Ignition Temperature: Test per ASTM D1929. 900 degrees F (482 degrees C).
        3. Impact Resistance: Test per ASTM D5420. Maximum deformation of 0.186 inch (4.7 mm) diameter or 0.007 inch (0.8 mm) depth.
        4. Rate Of Burning: Test per ASTM D635.

CC1 Classification indicating a burning extent of 1 inch (25.4mm) or less when tested at a nominal thickness of 0.060 inch (1.5mm) or thickness of intended use.

* + - * 1. Tensile Strength: Test per ASTM C297. Mean value of 1650 lbs (748.4 kg).
      1. Panel Composition: Metal composite material (MCM).
         1. Face Skin: .024 inch (0.6 mm) minimum, prefinished smooth aluminum.
         2. Core: .105 inch (2.7 mm) thermoset phenolic resin.
         3. Back Skin: .010 inch (0.25 mm) primed smooth aluminum backer.
      2. Panel thickness: 5/32 inch (4 mm) nominal.
      3. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/16 inch (1.6 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      4. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Installation System: Deep-Reveal (D-RV):
         1. Field-assembled system of metal composite material (MCM), trim moldings, silicone sealant, and accessories providing a rainscreen (cavity wall) system.
         2. Performance:

Air Infiltration: Testing per ASTM E283.

No air infiltration in excess of 0.06 cfm per sq ft (5.059 l per sec per sq m) at 1.57 psf (0.075 kPa).

Structural Performance: Testing per ASTM E330.

A design load of 35.0 psf (1.68 kPa) applied in positive and negative directions. No deflection more than L/175 of any support member span. At structural test loads equal to 1.5 times the specified design load, no support member will have permanent deformation in excess of 1/1000 of its span nor shall there be any failure of the system.

Water Penetration: Testing per ASTM E331.

No uncontrolled water penetration to room side at a static air pressure differential of 15.0 psf (0.72 kPa).

Fire Performance: Test per NFPA 285 (UBC 26-9 equivalent).

Shall have a value of pass, and comply with criteria set forth in the standard.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Envelope 2000 Deep-Reveal, Engineered Architectural Wall System as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - * 1. Bond Integrity: Test per ASTM D1781. peel strength of 34.5 lb-in per lb (8.6 N-m per kg).
        2. Ignition Temperature: Test per ASTM D1929. 900 degrees F (482 degrees C).
        3. Impact Resistance: Test per ASTM D5420. Maximum deformation of 0.186 inch (4.7 mm) diameter or 0.007 inch (0.8 mm) depthdepth.
        4. Rate Of Burning: Test per ASTM D635.

CC1 Classification indicating a burning extent of 1 inch (25.4mm) or less when tested at a nominal thickness of 0.060 inch (1.5mm) or thickness of intended use.

* + - * 1. Tensile Strength: Test per ASTM C297. Mean value of 1650 lbs (748.4 kg).
      1. Panel Composition: Metal composite material (MCM).
         1. Face Skin: .024 inch (0.6 mm) minimum, prefinished smooth aluminum.
         2. Core: .105 inch (2.7 mm) thermoset phenolic resin.
         3. Back Skin: .010 inch (0.25 mm) primed smooth aluminum backer.
      2. Panel thickness: 5/32 inch (4 mm) nominal.
      3. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/16 inch (1.6 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      4. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Installation System: Deep-Reveal (D-RV):
         1. Field-assembled system of metal composite material (MCM), trim moldings, silicone sealant, and accessories providing a rainscreen (cavity wall) system.
         2. Performance:

Air Infiltration: Testing per ASTM E283.

No air infiltration in excess of 0.06 cfm per sq ft (5.059 l per sec per sq m) at 1.57 psf (0.075 kPa).

Structural Performance: Testing per ASTM E330.

A design load of 35.0 psf (1.68 kPa) applied in positive and negative directions. No deflection more than L/175 of any support member span. At structural test loads equal to 1.5 times the specified design load, no support member will have permanent deformation in excess of 1/1000 of its span nor shall there be any failure of the system.

Water Penetration: Testing per ASTM E331.

No uncontrolled water penetration to room side at a static air pressure differential of 15.0 psf (0.72 kPa).

* + - * 1. Trim Moldings: CRAX-10 extrusions.
        2. Trim Moldings: CRAX-11 extrusions.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Envelope 2000 Reveal, Engineered Architectural Wall System as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - * 1. Bond Integrity: Test per ASTM D1781. peel strength of 34.5 lb-in per lb (8.6 N-m per kg).
        2. Ignition Temperature: Test per ASTM D1929. 900 degrees F (482 degrees C).
        3. Impact Resistance: Test per ASTM D5420. Maximum deformation of 0.186 inch (4.7 mm) diameter or 0.007 inch (0.8 mm) depthdepth.
        4. Rate Of Burning: Test per ASTM D635.

CC1 Classification indicating a burning extent of 1 inch (25.4mm) or less when tested at a nominal thickness of 0.060 inch (1.5mm) or thickness of intended use.

* + - * 1. Tensile Strength: Test per ASTM C297. Mean value of 1650 lbs (748.4 kg).
      1. Panel Composition: Metal composite material (MCM).
         1. Face Skin: .024 inch (0.6 mm) minimum, prefinished smooth aluminum.
         2. Core: .105 inch (2.7 mm) thermoset phenolic resin.
         3. Back Skin: .010 inch (0.25 mm) primed smooth aluminum backer.
      2. Panel thickness: 5/32 inch (4 mm) nominal.
      3. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/16 inch (1.6 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      4. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Installation System: Reveal (RV):
         1. Field-assembled system of metal composite material (MCM), trim moldings, silicone sealant, and accessories to provide a barrier system.
         2. Performance:

Air Infiltration: Testing per ASTM E283.

No air infiltration in excess of 0.06 cfm per sq ft (5.059 l per sec per sq m) at 1.57 psf (0.075 kPa).

Structural Performance: Testing per ASTM E330.

A design load of 35.0 psf (1.68 kPa) applied in positive and negative directions. No deflection more than L/175 of any support member span. At structural test loads equal to 1.5 times the specified design load, no support member will have permanent deformation in excess of 1/1000 of its span nor shall there be any failure of the system.

Water Penetration: Testing per ASTM E331.

No uncontrolled water penetration to room side at a static air pressure differential of 15.0 psf (0.72 kPa).

* + - * 1. Trim Moldings: CRAX-1 Horizontal / Vertical (Reveal)
        2. Trim Moldings: CRAX-2 Perimeter J (Reveal)
        3. Trim Moldings: CRAX-3 Perimeter J
        4. Trim Moldings: CRAX-4 Inside Corner
        5. Trim Moldings: CRAX-5 Outside Corner
        6. Trim Moldings: CRAX-6 Horizontal / Vertical (3" Reveal)
        7. Trim Moldings: CRAX-7 Horizontal / Vertical
        8. Trim Moldings: CRAX-8 Outside Corner (Adjustable)
        9. Trim Moldings: CRAX-9 Inside Corner (Adjustable)

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Envelope 2000 Rout and Return, Engineered Architectural Wall System as manufactured by Citadel Architectural Products, Incorporated.
       1. Panel Performance:
          1. Surface Burning Characteristics: Test per ASTM E84. Class A rating.

Flame Spread Index: 25. Smoke Developed Index: 450.

* + - * 1. Bond Integrity: Test per ASTM D1781. peel strength of 34.5 lb-in per lb (8.6 N-m per kg).
        2. Ignition Temperature: Test per ASTM D1929. 900 degrees F (482 degrees C).
        3. Impact Resistance: Test per ASTM D5420. Maximum deformation of 0.186 inch (4.7 mm) diameter or 0.007 inch (0.8 mm) depthdepth.
        4. Rate Of Burning: Test per ASTM D635.

CC1 Classification indicating a burning extent of 1 inch (25.4mm) or less when tested at a nominal thickness of 0.060 inch (1.5mm) or thickness of intended use.

* + - * 1. External Flame Resistance: Test per Modified ASTM E108. Pass.
        2. Tensile Strength: Test per ASTM C297. Mean value of 1650 lbs (748.4 kg).
      1. Panel Composition: Metal composite material (MCM).
         1. Face Skin: .024 inch (0.6 mm) minimum, prefinished smooth aluminum.
         2. Core: .105 inch (2.7 mm) thermoset phenolic resin.
         3. Back Skin: .010 inch (0.25 mm) primed smooth aluminum backer.
      2. Panel thickness: 5/32 inch (4 mm) nominal.
      3. Panel Tolerances:
         1. Thickness: 1/32 inch (0.8 mm).
         2. Length and Width: Plus 0, minus 1/16 inch (1.6 mm).
         3. Squareness: 1/64 inch per lineal foot (1.3 mm per m).
      4. Finish: Polyvinylidene Fluoride (PVDF): Conform with AAMA 2605.
         1. Type: Kynar 500 coating using 70 percent resin.

Two-Coat Colors: 0.2 mil primer, 0.8 mil color.

Three-Coat Colors: 0.2 mil primer, 0.8 mil color, 0.7 mil clear.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: As selected by Architect from manufacturer's color guide.
        2. Color: Custom color to match Architect's standard.
        3. Performance:

Gloss: Test per ASTM D523. Finish Value: 20 to 35 at 60 degrees (15.6 degrees C).

Solar Reflectance: Testing per ASTM E903.

Steep Slope: Greater than 25 percent initial; greater than 15 percent after 3 years.

Low Slope: Greater than 65 percent initial; greater than 50 percent after 3 years for low slope.

Emissivity: Testing per ASTM C1371. 0.80 (80 percent) minimum.

Pencil Hardness: Testing per ASTM D3363. F-2H.

Flexibility: Testing per ASTM D4145. 0 to 2 T-bend, no pick off.

Adhesion: Testing per ASTM D3359. No adhesion loss.

Reverse Impact: Test per ASTM D2794. No cracking or adhesion loss.

Abrasion: Test per ASTM D968. 65 to 85 l/mil.

Mortar Resistance: Test per ASTM C267. No effect.

Detergent Resistance: Test per ASTM D2248. No effect using 3 percent detergent at 100 degrees F (37.8 degrees C) (72 hours).

Resistance: Test per ASTM D1308.

No effect using 10 percent muriatic acid (24 hours) and no effect using 20 percent sulfuric acid (18 hours).

Acid Rain: Test per Kesternich SO2, DIN 50018.

No objectionable color change after 15 cycle minimum.

Alkalai Resistance: Test per ASTM D1308.

No effect using 10 percent, 25 percent NaOH (1 hr).

Salt Spray Resistance: Test per ASTM B117.

No face blistering; Max average 1/16 inch (1.5 mm) scribe creep, passes 4000 hours using 5 percent salt fog at 95 degrees F (35 degrees C).

Humidity Resistance: Test per ASTM D714, ASTM D2247.

Passes 4000 hours, No No. 8 blisters using 100 percent relative humidity at 95 degrees F (35 degrees C).

Exterior Exposure: Test per ASTM D2244, ASTM D4214.

Max 5 fade and Max 8 chalk at 10 years at 45 degrees, south Florida.

* + - 1. Finish: Anodized aluminum.
         1. Type: AA-C22-A21 (clear). Barrier, aluminum oxide, nickel/hydrate seal.
         2. Type: AA-C22-A23 (colored). Barrier, aluminum oxide, colorant, nickel/hydrate seal.

Color: As selected by Architect from manufacturer's color guide.

* + - * 1. Performance:

Salt Spray Resistance: Testing per ASTM B117.

Acid Dissolution: Testing per ASTM B680.

Gloss: Testing per ASTM D523.

Coating Mass: Testing per ASTM B137.

* + - 1. Installation System: Rout and return (RR):
         1. Shop-fabricated system of routed and formed metal composite material (MCM), mounting extrusions, mechanical fasteners, foam backer rod, silicone sealant, and accessories providing a barrier-type system. Allowance shall be made for expansion and contraction of the wall panel assembly. systems restricting proper thermal movement, such as those utilizing single 'L' clips on all four sides, shall not be permitted.
         2. Performance:

Air Infiltration: Testing per ASTM E283.

No air infiltration in excess of 0.06 cfm per sq ft (5.059 l per sec per sq m) at 1.57 psf (0.075 kPa).

Structural Performance: Testing per ASTM E330.

A design load of 35.0 psf (1.68 kPa) applied in positive and negative directions. No deflection more than L/175 of any support member span. At structural test loads equal to 1.5 times the specified design load, no support member will have permanent deformation in excess of 1/1000 of its span nor shall there be any failure of the system.

Water Penetration: Testing per ASTM E331.

No uncontrolled water penetration to room side at a static air pressure differential of 15.0 psf (0.72 kPa).

Fire Performance: Testing per NFPA 285 (UBC 26-9 equivalent). Value of pass, and comply with criteria set forth in the standard.

* 1. ACCESSORIES
     1. Extrusions: Conform with ASTM B211 and the manufacturer's recommendations.
        1. Applied in accordance with manufacturer's guidelines.
     2. Sealants: From the panel manufacturer's approved list of sealants.
        1. Applied in accordance with manufacturer's guidelines and sealant manufacturer's recommendations.
     3. Fasteners: Selected by contractor to suit project requirements.
        1. Applied using the recommended fastener schedule in accordance with manufacturer's guidelines.
        2. Coated to prevent corrosion and/or reaction with other materials.
        3. Concealed unless unavoidable. Exposed fasteners finished to match adjoining metal.
     4. Flashing: Selected by contractor to suit project requirements.
        1. Installed maintaining the integrity of wall system against moisture intrusion.

Envelope 2000 Rout and Return, Envelope 2000 RainScreen

* + 1. Stiffeners: Selected by contractor to suit project requirements.
       1. Applied in accordance with the panel manufacturer's installation guidelines.
       2. Applied to all panels 36 x 36 in (914 x 914 mm) or larger.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Examine and verify substrate surfaces to receive composite metal panel system and associated work and condition which work will be installed.
      3. Maximum deviation from vertical and horizontal alignment of substrate shall be no more than 1/4 inch in 20 feet (1 mm in 1 m).
      4. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to installer. Starting work within a particular area will be construed as installer's acceptance of surface conditions.
      5. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
      3. Comply with manufacturer's product data including product technical bulletins, product catalog installation instructions, and product carton instructions.
      4. Surfaces to receive panels shall be even, smooth, sound, clean, and free from defects detrimental to panel installation.
      5. Field measure and verify dimensions as required.
      6. Protect adjacent areas or surfaces from damage as a result of the Work of this Section.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions.
      2. Sheathing and water resistant membrane (if specified) by others.
      3. Erect panels level and true to intended plane.
      4. Maximum deviation from vertical and horizontal alignment of erected panels shall be no more than 1/4 inch in 20 feet (1 mm in 1 m).
      5. Maximum deviation in panel flatness shall be 0.6 percent of the assembled units.
      6. Conform to panel manufacturer's instructions for attachment systems.
      7. Weather seal all joints as required using methods and materials as recommended by the panel manufacturer.
   4. PROTECTION
      1. Remove temporary coverings and protection to adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance.
      2. Remove and legally dispose of construction debris from project site.
      3. Protect installed products until completion of project.
      4. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION