SECTION 072500 - WEATHER BARRIERS

PART 1 – GENERAL

C. Related Work:

A. Description: Weather barriers are indicated by Contract Documents and shall include work necessary and incidental to completion and performance of the Work.

B. Included: Weather barriers include, but are not limited to, following: 1. Design, detailing, fabrication and installation of weather barrier work. 2. Weather barrier membrane systems, including appurtenances. Include flashing, counter flashing, expansion and control joints,

and other components necessary for a complete system. 3. Substrate preparation and conditioning as required.

1. Substrate work, including gypsum sheathing and concrete.

1.2. SYSTEM DESCRIPTION

A. Codes and Standards: Meet requirements of the following, except to extent of most stringent requirements of Contract Documents and of codes and regulations of public authorities having jurisdiction over the Work:

1. General: Descriptions and requirements indicated by Contract Documents establish basic arrangements, performance, function and like requirements. Within these limitations, work shall meet performance requirements indicated by Contract Documents, and include components not indicated but necessary for performance and function, and to be a complete system. Perform modifications only as necessary to meet requirements of Contract Documents and to coordinate the work, subject to acceptance of Architect. Maintain performance requirements without altering basic arrangements. Variations in details and products shall not adversely affect performance, strength and durability. Provide complete drawings and data of proposed modifications. 2. Qualification: Contract Documents are intended to cover complete work and to outline performance and products required, but not to cover details of design and construction. Such details shall be responsibility of installer and manufacturer. Contact Documents do not invent or develop any part of work, but have made only selections of systems, materials and like characteristics

from choices made available by manufacturer. 3. Certification: Work shall be designed, certified, reviewed and inspected by engineer of Contractor, subject to minimum requirements of Contract Documents.

C. Performance Requirements:

with required physical characteristics.

1. General: Work shall meet performance requirements indicated by Contract Documents, including requirements in this Paragraph and in other parts of this Section, with normal maintenance as defined by printed product and maintenance data of manufacturer. 2. Minimum Requirements: Requirements indicated by Contract Documents are minimal for work of this Section. If manufacturer has more stringent requirements or standards required for issuance of required warranty, those requirements and standards shall be adhered to by installer. Lesser requirements and standards will not be accepted even if acceptable to manufacturer. 3. Performance Conditions: Performance of work shall include live loads, creep, shrinkage, deflections, temperature variations, stresses, expansion and contraction requirements, seismic forces, vibration, differential settlement and other like conditions meeting most stringent requirements of Contract Documents and codes and regulations of public authorities having jurisdiction

4. Weather Barrier System: a. System: Each area of installed weather barrier shall be continuous, vapor impermeable, watertight barrier against air infiltration and exfiltration, water vapor transmission and water infiltration and shall function as weather resistive membrane for life of

b. Air Movement: Weather barrier shall appreciably reduce air movement into structure. c. Water Vapor Movement: Weather barrier shall retard water vapor movement into structure, with water vapor permeance as specified for products in Part 2 of this Section. d. Water Movement: Weather barrier shall prevent water movement into structure relative to capillary attraction or cracks in

surface of substrate. e. Structural Movement: Air and vapor barrier assembly shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction and material changes and transitions at perimeter conditions without deteriorating and without air, vapor and water leakage exceeding specified limits.

f. Joints and Penetrations: Weather barriers shall not be perforated and shall be continuous with all joints air, vapor and water

g. Resistance: Weather barriers shall be resistant to atmospheric conditions common to project site, salt solutions, mild acids, and alkali. Completed barrier system shall be resistant to ozone and decay from substances and conditions in which materials will be in contact, and shall not support mold growth h. UV Resistance: Weather barriers shall be resistant to UV exposure.

5. Compatibility: Compatible with materials to which weather barrier and each accessory is in contact.

A. Single Responsibility: Work shall be performed by a single installer having undivided responsibility for providing complete work, including all components and related work, and for performance and quality of work.

1. Primary: Limit primary weather barrier materials only to manufacturer and types specified in Part 2 of this Section. 2. Secondary: Secondary materials for use with weather barrier shall be as instructed or recommended by primary weather barrier materials manufacturer and when required furnished by weather barrier manufacturer C. Manufacturer Qualifications: Submit certified evidence proving specified materials have been manufactured by same source and successfully installed on a yearly basis for 10 years minimum on projects of similar extent and complexity. D. Installer Qualifications: Installer shall specialize in performing work of this Section and have 5 years minimum documented experience in design, engineering, detailing, fabrication, installation and maintenance of type and quality required for work. Installer

shall be certified or licensed by weather barrier manufacturer and trained in use of materials and equipment to be employed in work, and have successfully completed 5 projects minimum using similar systems of similar scope and complexity within past 5 years. Provide proof of qualifications. Contractor Responsibilities: Contractor is solely responsible for quality assurance and control of weather barrier work. F. Insurance Certification: Assist Owner in preparation and submittal of whatever weather barrier system installation acceptance

certification may be necessary in connection with warranty. G. Manufacturer Representative: Provide services of a trained technical representative of weather barrier manufacturer to advise on every phase of work and to perform other like services at project site as necessary. As minimum, provide full-time attendance during first two work days and thereafter once each week for two consecutive hours, and required technical assistance. Representative shall give preparation and installation instructions, examine substrates before installations, witness integrity testing of weather barrier application when applicable and examine completed installation before weather barrier membrane is covered.

1.4. SOURCE QUALITY CONTROL A. General: Quality Control Service to perform preconstruction quality assurance and control evaluations of work to verify compliance of work with requirements of Contract Documents. Evaluations will include, but are not limited to, requirements B. Materials Inspection: Inspect random samples of weather barrier materials and test materials as necessary to verify compliance

1.5. SUBMITTALS A. Product Data: Submit product specifications, technical data, standard detail drawings, and installation instructions of manufacturer for each product. Include published data, certified conformance report or certified laboratory test report of

manufacturer substantiating each proposed product and system meets requirements of Contract Documents. 1. Material List: Include a material list with technical data documenting compliance of materials with requirements of Contract Documents, location and primary function, quality and performance of each material, component or system proposed for the work. B. Shop Drawings: Submit shop drawings for fabrication and installation of work. Indicate each material, show details of edge terminations and flashings; treatment of joints, projections and penetrations, and other special or unique conditions.

1. Weather Barrier Membrane: Include layout of weather barrier membrane. 2. Expansion and Control Joints: Include layout and details for expansion and control joints.

3. Flashing: Include location, layout and details of flashing, and other similar work. 4. Detail Conditions: Include locations and details of penetrations, including vents and termination of weather barrier at roof C. Manufacturer Certification: Submit certification signed by weather barrier manufacturer, stipulating following: 1. Weather Barrier Systems: Weather barrier membrane systems proposed for work is acceptable. Provide evidence showing

specified materials have been manufactured by same sources and successfully installed on a yearly basis for 10 years minimum on projects of similar extent and complexity to the Work. 2. Associated Materials: Other products required by Contract Documents to be furnished by weather barrier manufacturer are acceptable as components of weather barrier system and are eligible for weather barrier system warranty issued by weather

barrier manufacturer. 3. Installer: Installer is approved as an experienced applicator of weather barrier system. Indicate years of weather barrier system design and installation experience, total area of weather barrier system installed, and good installation rating of installer by weather barrier membrane manufacturer. Provide list of 5 minimum projects, with reference names, addresses and telephone numbers, satisfactorily completed under current company name, of similar extent and complexity to the work. Previous experience shall correspond to specific membrane system proposed for the work. Installer shall be in business 5 years minimum under the same

4. Warranty: Weather barrier system and material warranty provisions and requirements indicated in Contract Documents are acceptable to weather barrier manufacturer. Attach sample draft form of weather barrier system and material warranty proposed to be issued by weather barrier manufacturer. Include specific statement of conditions and limitations associated with each warranty and include provisions specified in Article - Warranty, of this Section. D. Installer Certification: Submit certification signed by weather barrier installer, and certified and sealed by engineer of Contractor,

stipulating weather barrier system and material warranty provisions and requirements indicated in Contract Documents are acceptable to installer. Attach sample draft form of weather barrier system and material warranty proposed to be issued by installer. Include specific statement of conditions and limitations associated with warranty and include provisions specified in

E. Manufacturer Review Statement: Submit statement in form acceptable to Architect, signed by Contractor and installer, stating Contract Drawings and Specification, product data and shop drawings have been reviewed with qualified representatives of material manufacturers, and that they are in agreement that selected systems, materials and details are proper and adequate for application required, including compatibility with adjacent systems and materials. F. Quality Control Reports: Submit written report of procedures, findings and determinations as a result of required weather barrier

G. Application Statement: Submit statement in form acceptable to Architect, signed by Contractor and installer, stating work was provided in compliance with Contract Documents and installation was proper for conditions of application and use.

A. General: Deliver and store materials in manufacturer original, unopened, packaging, labeled to show name, brand, type, grade, and compliance labels when applicable. Store materials in protected location off ground and meeting instructions of manufacturer.

1. General: Do not allow materials to become wet, soiled or covered with ice or snow, or exposed to moisture, freezing or thinning agents. Meet manufacturer precautions and recommendations to protect materials from deterioration and damage.

2. Plastic Products: Protect plastic products from fire ignition and exposure to sunlight.

A. Substrate Conditions:

1. Substrates shall be completely dry and free of moisture detrimental to installation of weather barrier. Drying required due to wetting of substrates by inclement weather or other circumstances shall be by methods not detrimental to substrate and installation Starting installation of work shall constitute acceptance of substrate conditions by installer.

B. Weather Conditions: 1. Proceed with work only when weather conditions will permit unrestricted use of materials and quality control of work being installed, meeting requirements, instructions and recommendations of materials manufacturers and warranty requirements. 2. Proceed only when installer is willing to accept the substrate and weather conditions without reservation and restriction. 1. Protect building from damage resulting from spillage and dropping of materials. Do not allow materials to enter and clog drains and associated piping. Prevent spillage and migration onto other surfaces of the work by masking or otherwise protecting such work. Be responsible for repair, restoration or replacement of other work which is soiled or damaged in connection with

performance of roofing work. 2. Until weather barrier is protected with final covering, keep area free from traffic and other work operations. Provide necessary temporary protection to prevent damage, such as caused by traffic, gouging, scraping, spillage of deleterious substances or excessive heat.

D. Coordination and Sequencing: 1. Proceed with weather barrier only after substrate construction and penetrating work through substrates have been completed.

Also, all perimeter work and abutting surfaces, and other related work shall have been completed so, once work is started, such

work can be completed and properly flashed so other work on completed weather barrier installation is minimal. No phased construction will be permitted, including associated detail work. 2. Schedule installation to minimize period of exposure prior to covering with permanent construction.

SECTION 072500 - WEATHER BARRIERS: (continued)

18 WARRANTY

A. General: Warranty work meeting provisions of Conditions of the Contract, except warranty shall include additional provisions of this Article.

B. Coverage: 1. General: Warranty shall include, but not be limited to, products furnished, or supplied or required by Contract Documents to be supplied by weather barrier manufacturer. Defective materials and workmanship shall include. but not be limited to, products supplied not free from manufacturing defects, abnormal deterioration, aging or weathering of work; air infiltration and exfiltration, water vapor transmission and water infiltration exceeding specified limits, and weather barrier system that is not weathertight and watertight and which fails to perform as

required by Contract Documents. 2. Total System: Warranty shall cover components of weather barrier. 3. Other Work: Warranty shall include removal and replacement of other materials and work covering weather barrier, to extent required to repair and replace weather barrier work, which shall be responsibility of Contractor for first 2 years, and thereafter, the Owner.

C. Costs: Warranty shall be without cost limitation and at no expense to Owner. D. Signatures: Warranty shall be signed by Contractor, installer and weather barrier manufacturer. E. Time Period: Extend warranty time period to 5 years.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS A. Carlisle Coatings & Waterproofing Incorporated.

B. Henry Company.

D. W.R. Grace & Co.

A. General: Products and weather barrier systems manufactured or furnished by one of acceptable manufacturers which meet requirements of Contract Documents without exception.

B. Performance: 1. General: Meet requirements specified in Article - System Description, Paragraph - Performance Requirements, of this Section. 2. Material Air Permeance: Pass with air leakage of 0.004 cfm/ft² maximum when evaluated meeting requirements of ASTM E283 and ASTM E2178. 3. Assembly Air Permeance: Pass with air leakage of 0.04 cfm/ft² maximum when evaluated meeting requirements of ASTM E2357

4. Water Vapor Permeance: 0.1 Perms maximum when evaluated meeting requirements of ASTM E96. 5. Gust Wind Load: Resist suction pressure of 62.8 psf maintained for 10 seconds with no delamination and no increase in air leakage rate when tested at 1.6 psf meeting requirements of ASTM E331. 6. Sustained Wind Load: Resist suction pressure of 10.5 psf maintained for 1 hour with no delamination and no increase in air leakage rate when tested at 1.6 psf meeting requirements of ASTM E331. 7. Tensile Strength - Sheet Membrane: 400 psi minimum for membrane when evaluated meeting requirements of ASTM D412, and 4,000 psi minimum at film when evaluated meeting requirements of ASTM D412. 8. Tensile Strength - Fluid Applied Membrane: 120 psi minimum when evaluated meeting requirements of ASTM 9. Lap Pull Adhesion: 4 pounds per inch minimum when evaluated at minimum application temperature meeting requirements of ASTM D1876. 10. Elongation: 200 percent minimum for sheet membranes and 500 percent for fluid applied membranes when evaluated meeting requirements of ASTM D412. 11. Pliability: Unaffected when evaluated meeting requirements of ASTM D1970, 180 arc degree bend over 1 inch mandrel at minus 25 degrees Fahrenheit. 12. Puncture Resistance: 40 pound feet minimum when evaluated meeting requirements of ASTM E154. 13. Low Temperature Flexibility: Pass when evaluated meeting requirements of ASTM C836, 1/8 inch crack cycling at -45 degrees Fahrenheit maximum. 14. Water Absorption: 0.10 percent weight gain maximum after 48 hours immersion at 70 degrees Fahrenheit

PART 3 - EXECUTION

when evaluated meeting requirements of ASTM D570.

work. If blow cleaning, use filtered compressed air.

3.1. EXAMINATION A. General: Examine areas and conditions under which work is to be installed for compliance with requirements of Contract Documents and to determine if conditions affecting performance of work are satisfactory. Do not proceed with installation until unsatisfactory conditions have been resolved. Commencement of installation shall constitute acceptance of conditions.

B. Special: Meet coordination and sequencing requirements in Article - Project Conditions, of this Section. C. Substrate Conditions: 1. Gypsum Board Sheathing: Verify all boards are properly stabilized with corners and edges fastened meeting sheathing board manufacturer instructions and requirements of barrier manufacturer, and with fasteners set flush with sheathing.

2. Horizontal Surfaces: Verify each horizontal area has positive drainage and that surfaces will not cause ponding D. Acceptance: Installation of weather barrier shall constitute acceptance of substrate conditions by installer. 3.2 PREPARATION

A. Protection: Protect building from damage resulting from spillage and dropping of materials. Do not allow materials to enter and clog drains and associated piping. Prevent spillage and migration onto other surfaces of the work by masking or otherwise protecting such work. Be responsible for repair and restore or replace other work which is soiled and damaged in connection with performance of the Work. B. Substrates: 1. General:

a. Thoroughly clean substrates removing dirt, laitance loose particles and deleterious matter which can impair

b. Dry substrate as necessary due to inclement weather or adjacent wet construction meeting instructions and recommendations of manufacturer. c. Patch cracks and fill voids and depressions in substrates as required to obtain a smooth, structurally sound surface and seal joints meeting instructions and recommendations of manufacturer. d. Cover gaps in substrate plane and form smooth transition from one substrate plane to another providing constant support for barrier materials.

published specifications, technical data and standard details of manufacturer.

B. Protect completed work from damage and deterioration until project completion.

3.3 INSTALLATION - GENERAL A. General: Install work meeting requirements of Contract Documents, as indicated by final reviewed submittals for work, and meeting instructions and recommendations of product manufacturers. Consult with manufacturers for conditions not covered by printed instructions. B. System: Install continuous, uninterrupted air and vapor barrier system, including flashings, edge terminations and other details and materials, to provide a complete air, vapor and water tight system meeting requirements of

A. Until weather barrier is protected, keep area free from traffic and other work operations. Provide necessary temporary protection to prevent damage, such as caused by traffic, falling objects, gouging, scraping, spillage of deleterious substances, excessive heat and other like occurrences.

END OF SECTION

SECTION 074213.53 - METAL SOFFIT PANELS

PART 1 - GENERAL

1.1 SUMMARY

and special details.

A. Section includes metal soffit panels. 1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. B. Shop Drawings: Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories;

1.3 INFORMATIONAL SUBMITTALS A. Warranties: Samples of special warranties.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period. 1. Warranty Period: Two years from date of Substantial Completion. B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to

repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period. 1. Finish Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:

1. Wind Loads: As indicated on Drawings. 2. Other Design Loads: As indicated on Drawings. 3. Deflection Limits: For wind loads, no greater than 1/240 of the span.

4.0Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 METAL SOFFIT PANELS A. General: Provide metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners in side

laps. Include accessories required for weathertight installation. 1. Basis-of-Design Product: Subject to compliance with requirements, provide Petersen Aluminum Corporation; Flush/Reveal Soffit or comparable product by one of the following:

a. ATAS International, Inc. b. Firestone Metal Products. LLC c. Metal-Fab Manufacturing, LLC

2. Aluminum Sheet: Coil-coated sheet, ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer, with temper as required to suit forming operations and structural performance required. a. Thickness: 0.032 inch (0.81 mm). b. Surface: Embossed finish.

c. Exterior Finish: Two-coat fluoropolyme d. Color: As indicated on Drawings.. 3. Panel Coverage: 12 inches (305 mm). 4. Panel Height: 1.0 inch (25 mm).

2.3 MISCELLANEOUS MATERIALS A. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A 792/A 792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide

manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated 1. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Finish flashing and trim with same finish system

D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners. E. Panel Sealants: Provide sealant types recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/8 inch (3 mm) thick. 2. Joint Sealant: ASTM C 920; as recommended in writing by metal panel manufacturer. 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.4 FABRICATION A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements. B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and

warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown. C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel. D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements. E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to

A. Panels and Accessories:

design, dimensions, metal, and other characteristics of item indicated.

1. Two-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions. 2. Concealed Finish: White or light-colored acrylic or polyester backer finish.

PART 3 - EXECUTION

3.1 PREPARATION A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations. 1. Soffit Framing: Wire tie furring channels to supports, as required to comply with requirements for assemblies indicated.

spacing recommended by manufacturer.

3.2 METAL PANEL INSTALLATION A. Metal Soffit Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and

1. Apply panels and associated items true to line for neat and weathertight enclosure. 2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal 3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer. 4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly

B. Watertight Installation: 1. Apply a continuous ribbon of sealant or tape to seal lapped joints of metal panels, using sealant or tape as recommend by manufacturer on side laps of nesting-type panels and elsewhere as needed to make panels watertight. 2. Provide sealant or tape between panels and protruding equipment, vents, and accessories.

without damage to washer, screw threads, or panels. Install screws in predrilled holes.

3. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with sealant and fastened together by interlocking clamping plates. C. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components. D. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are

permanently watertight. 3.3 CLEANING A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean

condition during construction. **END OF SECTION**

SECTION 074800 - RAINSCREEN WITH SINTERED COMPACT SURFACE PANEL RAINSCREEN SYSTEM

PART 1 - GENERAL 1.1 SUMMARY

A. Section Includes:

1. Rainscreen support system. 2. Sintered compact surface panels.

1.2 REFERENCE STANDARDS A. AAMA 508 - Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems. B. ASTM C920

C. ASTM C1026 - Measuring the Resistance of Ceramic and Glass Tile to Freeze-Thaw Cycling. D. ASTM C1184

E. ASTM E330 - Structural Performance of Exterior Windows, Doors, Skylights and Curatin Walls by Uniform Static Air Pressure F. ASTM E1233 - Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Air Pressure

G. NFPA 285 - Evaluation of Fire Propagation of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meetings: Require attendance by installer, manufacturer, architect, and others affected by work. B. Discuss schedules and coordination with related work.

1.4 SUBMITTALS A. Delegated Design Submittals:

Fasteners.

1. Provide shop drawings showing: a. Attachments to Building: Indicate types, sizes, spacing, and other requirements necessary to attach support system to building. b. Support System: Show materials, dimensions, locations, adhesives, fasteners, and other requirements for components to

c. Panels: Show products, colors, sizes, joint spacing, typical details, and coordination with related work. d. Loads for which system is designed, including wind speed, seismic force, and other conditions for which system is designed. 2. Shop drawings shall be signed and sealed by professional engineer registered in state where project is located and shall state that design complies with requirements of Contract Documents, manufacturer, and authorities having jurisdiction.

B. Submit product data and manufacturer's installation instructions for: Support system. 2. Sintered compact surface panels.

C. Samples: Submit two samples of following: 1. Sintered Compact Surface: Submit each color specified. Samples shall be 20 sq.in. or larger.

D. Test and Evaluation Reports 1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Extra Stock Materials: 1. Quantity: Provide tenpieces of each color of sintered compact surface used on project.

2. Sizes: Largest size provided for Project 3. Packaging: Pack in accordance with manufacturer's instructions for long-term storage. Clearly mark contents of each package. 4. Deliver to location indicated by Owner.

1.6 QUALITY ASSURANCE

1. Fabricators and Installers: Firms with 10 years experience on projects of similar size and nature and acceptable to rainscreen manufacturer.

2. Professional Engineer: Licensed in state where project is located. 3. Manufacturer: Support system and panels shall be manufactured by same company. B. Mock-Ups:

1. Construct mock-up at least 100sq.ft. in size.

Locate on site in location acceptable to Architect. 3. Show proposed appearance and means of construction.

4. Coordinate with mock-ups specified in other sections that are to be installed in or adjacent to of work that will be installed in or adiacent to rainscreen

5. After acceptance of Work, mock-up may remain part of Project. 1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's instructions.

A. Manufacturer Warranty: Provide sintered compact surface manufacturer's 10-year limited warranty. PART 2 - PRODUCTS

2.1 RAINSCREEN SYSTEMS A. Acceptable Products: Neolith Rain Screen System by TheSize Surfaces, S.L. (www.thesize.es, info@thesize.es, phone +1 416-

B. Performance Criteria:

1. Structural Loads: As shown indicated on Drawings. 2. Deflection Limits: For wind loads, no greater than 1/240 of the span.

3. Pressure Equalized Rainscreen Performance per AAMA 508: Pass. 4. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling,

opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss. a. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces. C. Attachment Assembly: Manufacturer's standard rail support rainscreen-principle system.

2.2 SUPPORT SYSTEM WITH FACTORY-INSTALLED CLEATS A. Product: Neolith Strongfix System with, vertical stiles, horizontal rails, and factory-installed mounting cleats.

1. Brackets: Extruded aluminum with vertical and horizontal adjustment slots. 2. Adjustable Furring:

a. Material: Extruded aluminum. b. Configuration: T-shaped.

3. Non-Adjustable Furring: Cold formed steel with G90 galvanized coating.

 a. Material: Extruded aluminum. b. Configuration: Channels with flanges to engage panel cleats. Cleats:

a. Material: Extruded aluminum. b. Locations: Full length of panel, at top and bottom of panels. c. Each cleat shall have two aluminum extrusions. 1) The upper extrusion engages in a downward slanted groove in panel; the lower extrusion part engages upward slanted groove in panel. The extrusions shall be adhered in grooves.

2) The two extrusions snap together to trap panel. 2.3 ALUMINUM

A. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063-T6. B. Exposed Anodized Finish: 1. Clear Anodic Finish AAMA 611 AA-M12C22A41, Class I, 0.018 mm.

2.4 SINTERED SURFACE PANELS

A. Acceptable Product: Neolith by TheSize Surfaces. B. Properties:

1. Composition: a. Quartz, feldspar, silica, and pigments sintered under heat and pressure. b. Ceramic or porcelain products are not acceptable

2. Backing: Glass fiber mesh in polyester resin. 1. Length and Width: As shown on Drawings. 2. Thickness: 6 mm.

D. Finish: Match Architect's sample. E. Color: As indicated on Drawings.

indicated profiles and with dimensional and structural requirements

A. Fasteners: Types and sizes shown in shop drawings, stainless steel. B. Stiffeners for Unsupported Edges and Corners: Aluminum.

2.5 ACCESSORIES:

A. General: Fabricate and sintered compact surface panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with

B. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories C. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer. 1. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but

not less than thickness of metal being secured. D. Cut panels to size. 1. Edge Tolerance: 1 mm. E. Edge Finish: Lightly sanded and free of sharp edges. Edges that will be visible at corners shall be finished to match adjacent

F. Panels with Cleats: Cut panels to size and install cleats in factory. PART 3 - EXECUTION

C. Install Panels.

a. Vertical Joints: 1/4 inch.

A. Verification of Conditions: Verify that items that will be covered by rainscreen are in acceptable condition prior to installing work

of this Section. 3.2 INSTALLATION A. Install in accordance with manufacturers instructions and shop drawings.

a. Install panels with direction of manufacture consistent on each facade unless otherwise required. 2. Layout as shown on Drawings. Joints between Panels and Between Panels and Adjacent Materials:

b. Horizontal Joints: 1/4 inch. c. D. Do not bridge building expansion or movement joints. E. Unsupported Edges: Do not exceed 4 inches from nearest support. Support all edges within eight feet of grade.

faces and of alignment of matching profiles.

1. Uninsulated Walls: Install non-adjustable furring.

3.3 ERECTION TOLERANCES A. Installation Tolerances: Shim and align sintered compact surface wall panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m), non-accumulative, on level, plumb, and location lines as indicated, and within 1/8-inch (3-mm) offset of adjoining

3.4 FIELD QUALITY CONTROL A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect completed sintered compact surface panel installation, including accessories. 3.5 CLEANING, REPAIR, AND PROTECTION

A. Remove excess sealant and other contaminants on surface. B. Repair or replace damaged panels to satisfaction of Architect. C. Protect installed work from damage.

END OF SECTION

600 West Fulton Chicago, IL 60661

Architect

LQ ACQUISITION PROPERTIES,LLC. 909 Hidden Ridge Irving, Texas 75038 214.492.6600

Owner

La Quinta Inn No. 2049 340 Park Ave Portland, ME 04102

Project Address

ALL DIMENSIONS SHOWN TO BE FIELD VERIFIED U.N.O.

_____ ____ _____ ____

_____ _____ 2 03/15/2017 ISSUED FOR PERMIT 1 02/15/2017 ISSUED FOR PRICING

NO. DATE REVISIONS/ISSUANCES

Engineering

600 W. Fulton Street Chicago, IL 60661-1259 T 312.454.9100

www.epsteinglobal.com PROJECT NUMBER PROJECT MANAGER: ARCH/ENG: 3/32" = 1'-0" SCALE: DRAWN BY:

New York

Bucharest

OUTLINE **SPECIFICATIONS**

CHECKED BY:

JASON P. CHANDLER

No. 3962

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Structural Engineer

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