SPEC NOTE:

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SPEC NOTE: Mod Panel Manufacturing Ltd. is an operating company established to manufacture building envelope products that improve the energy efficiency of a building and reduce its carbon footprint. Through research and development, Mod Panel Manufacturing Ltd. has created three (3) main product lines that provide cost-effective solutions to the construction industry for commercial and institutional buildings by modularizing the installation of products to improve speed of installation and overall cost of construction.

SPEC NOTE: purWALL™ is an engineered patent pending building exterior wall assembly. It provides both a vapour and air barrier with high thermal resistance values using polyurethane insulation comprising of light gauge non-load bearing steel studs with an integrated thermally broken z-bar system and external hat tracks for fastening external cladding to exterior walls. Our pre-fabricated walls can be manufactured to provide a substrate for the following finishes:

EIFS SYSTEMS
MASONRY
CORRUGATED METALS
METAL PANELS

purWALL™, a pre-fabricated steel stud insulated wall envelope provides Developers, Contractors, and Owners a high quality product with speed of installation.

With a 10 year full envelope warranty in collaboration with Morrison Hershfield, purWALL™ provides a comprehensive building envelope, exceeding ASHRA 90.1 and MNECB for close to traditional methods costs of construction.

Through state of the art technology, Mod Panel Manufacturing has incorporated purBOARD™, a patent pending high quality thermally broken exterior insulated rain screen system to an exterior sheathed polyurethane foam insulation system.

SPEC NOTE: Contact Mod Panel Manufacturing for panel layout and shop drawing submissions.

SPEC NOTE: For approved panel installer in your area, please contact Mod Panel Manufacturing Ltd.

Part 1 General

1.1 SUMMARY

.1 Section Includes:

.1 Factory fabricated wall panel assemblies, including:

.1 Lateral load-bearing cold formed metal framing (studs and track, z-girts, hat sections).

.2 Sheathing board.

.3 Air and vapour barriers.

.4 Insulation.

.2 Related Requirements:

SPEC NOTE: Edit the following paragraphs to list documents or Sections with specific information that the reader might expect to find in this Section, but is specified elsewhere. Do not include Division 00 or Division 01 Sections in this listing.

.1 Section [_____]. – [Cladding Sections.]

.2 Section [_____]. – [Plywood spec for plywood on parapets.]

1.2 PRICE AND PAYMENT PROCEDURES

.1 Allowances:

.1 [Preconstruction] [Source quality-control] [and] [field quality-control] testing are part of testing and inspecting allowance.

1.3 REFERENCES

.1 AAMA:

.1 AAMA 501.4 – [09], Recommended Static Test Method for Evaluating Curtain Wall and Storefront Systems Subjected to Seismic and Wind Induced Interstory Drifts (501.4).

.2 AAMA 501.5 – [07], Test Method for Thermal Cycling of Exterior Walls.

.3 AAMA 501.7 – [17], Recommended Static Test Method for Evaluating Windows, Window Wall, Curtain Wall and Storefront Systems Subjected to Vertical Inter-Story Movements.

.2 ASTM International:

.1 ASTM A653/A653M – [15], Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM C165 - [2007], Standard Test Method for Measuring Compressive Properties of Thermal Insulations.

.3 ASTM C303 - [2012], Standard Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation.

.4 ASTM C356 - [2010], Standard Test Method for Linear Shrinkage of Preformed High-Temperature Thermal Insulation Subjected to Soaking Heat.

.5 ASTM C423 - [2009a], Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

.6 ASTM C518 - [2010], Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.

.7 ASTM C612 - [2010], Standard Specification for Mineral Fiber Block and Board Thermal Insulation.

.8 ASTM C795 - [2008], Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel.

.9 ASTM C1104/C1104M - [2013], Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation.

.10 ASTM C1177/C1177M – [13], Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.

.11 ASTM C1338 - [2008], Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.

.12 ASTM D1621 – [10], Standard Test Method for Compressive Properties Of Rigid Cellular Plastics.

.13 ASTM D1622/D1642M – [14], Standard Test Method for Water Absorption of Rigid Cellular Plastics.

.14 ASTM D2126 – [15], Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.

.15 ASTM E84 – [17], Standard Test Method for Surface Burning Characteristics of Building Materials.

.16 ASTM E283 Standard Test Method for Air Leakage through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

.17 ASTM E330 Standard Test Method for Structural Performance for Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

.18 ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

.19 ASTM E96/E96M - [2010], Standard Test Methods for Water Vapor Transmission of Materials.

.20 ASTM E2178 – [13], Standard Test Method for Air Permeance of Building Materials.

.3 Canada Green Building Council (CaGBC):

.1 LEED Canada-NC Version 1.0 - [2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations (including Addendum [2007]).

.2 LEED Canada-NC - [2009], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.

.3 LEED Canada-CI Version 1.0 - [2007], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Commercial Interiors.

.4 LEED Canada-EB: O M - [2009], LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Existing Buildings: Operations and Maintenance 2009.

.4 Underwriters Laboratories of Canada (ULC):

.1 CAN/ULC S101 - [2014], Standard Methods of Fire Endurance Tests of Building Construction and Materials.

.2 CAN/ULC S102 - [2010], Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

.3 CAN/ULC S114 - [2005], Standard Method of Test for Determination of Non-Combustibility in Building Materials.

.4 CAN/ULC S702 - [2014], Standard for Thermal Insulation Mineral Fibre for Buildings.

.5 CAN/ULC-S705.1 - [2015], Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, -Material – Specification.

.6 CAN/ULC-S705.2 - [2005], Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Application.

.7 CAN/ULC S741 - [08], Standard for Air Barrier Materials – Specification.

.8 CAN/ULC S770 - [2015], Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulating Foams.

1.4 ADMINISTRATIVE REQUIREMENTS

.1 Coordination:

.1 Access to the Site:

.1 Construction access shall be from perimeter of the building.

.2 Material Logistics:

.1 Wall assembly panel delivery to be conducted by tow behind trailers.

.2 Wall assembly panel delivery traffic to circle building within 12 feet of the side of the building.

.3 Wall assembly panels will be stored off site to be delivered in sequential order based on elevation.

.4 Equipment logistics:

.1 Wall assembly panel crane to be provided by Subcontractor.

.2 Site Parking – To be determined by Constructor.

.2 Pre-Installation Meetings:

.1 Conduct pre-installation meeting one week prior to start of work of this section.

.2 Include the pre-fabricated wall panel manufacturer’s representative, related cladding subcontractor's representatives, related glazing systems subcontractor’s representatives, [Construction Manager,] [Contractor,] Consultant, Building Envelope Consultant, and Owner.

.3 Review installation and sequencing conditions particular to this project and review materials specified in this section.

.4 Review coordination and installation requirements of specified claddings, review materials, details and assemblies, requirements for warranty conditions.

.5 Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.

.6 Review details, wall penetrations, openings, and condition of other construction assemblies related to pre-fabricated wall panel assemblies.

.7 Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.

.8 Review temporary protection requirements for pre-fabricated wall panel assemblies during and after installation.

.9 Document proceedings, including corrective measures and actions required, and furnish copy of record to each meeting participant.

1.5 SUBMITTALS

.1 Submit in accordance with Section [01 33 00 - Submittal Procedures].

SPEC NOTE: Include requests for relevant data to be furnished by the Constructor, before, during or after construction.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for panels, hardware, and accessories. Include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit WHMIS MSDS in accordance with Section [01 35 29 - Health and Safety Requirements] [01 35 43 - Environmental Procedures]. Indicate VOC's for materials as follows:

.3 Shop Drawings:

.1 Submit drawings stamped and signed by professional engineer registered or licensed in [Province] [Territory] of [_____], Canada.

.2 Indicate on drawings:

.1 Detail fabrication and installation of panels.

.2 Dimensions, wall openings, head, jamb, sill and mullion detail, materials and finish, anchor details, compliance with design criteria and requirements of related work.

.3 Erection tolerances of building structure supporting pre-fabricated wall panel assemblies.

.4 Indicate details at building corners.

.5 Indicate type, size, and length of welded connections by AWS standard symbols. Detail loose and cast-in hardware and connections.

.6 Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.

.7 Include plans, cross sections, and elevations showing panel location and sequence of erection for special conditions.

.8 Indicate location of each panel by same identification mark placed on panel.

.9 Indicate relationship of panels to adjacent materials.

.10 Indicate panel and support structure movement provisions.

.11 Indicate flashing and drainage.

.12 Show connection to and continuity with adjacent thermal, weather, air, and vapour barriers.

.13 If design modifications are proposed to meet performance requirements and field conditions, submit design calculations and Shop Drawings. Do not adversely affect the appearance, durability, or strength of panels when modifying details or materials and maintain the general design concept.

.4 Samples:

.1 Submit duplicate [600 x 600] mm cross sectional samples of panels.

.5 Certificates:

.1 Welding certificates.

.2 Material certificates: For the following items:

.1 Framing and anchorage materials.

.2 Insulation materials.

.6 Delegated-Design Submittals:

.1 Comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

.2 Show governing panel types, connections, and framing. Indicate location, type, magnitude, and direction of loads imposed on the building structural frame from panels.

.7 Test and Evaluation Reports:

.1 Pre-construction test reports.

.2 Source quality-control test reports.

.3 Field quality-control [and special inspection] reports.

.8 Manufacturer's Reports:

.1 Submit manufacturer's written reports within [3] days of review, verifying compliance of Work, as described in Part 3 - FIELD QUALITY CONTROL.

SPEC NOTE: Co-ordinate the following paragraph with Section 01 35 21 - LEED Requirements.

.9 Sustainable Design Submittals:

.1 LEED Canada submittals: in accordance with [Section 01 35 21 - LEED Requirements].

.2 Regional Materials: submit evidence that project incorporates required percentage [10] [20] % of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

.10 Special Procedure Submittals: For [Installer] [fabricator] [testing agency].

.11 Qualification Statements:

.1 Manufacturer, installers, and installer supervisors.

1.6 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section [01 78 00 - Closeout Submittals].

.2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.

.3 Warranty documentation.

.4 Sustainable design closeout documentation.

1.7 QUALITY ASSURANCE

.1 Qualifications:

.1 Installers: An entity that employs installers and supervisors who are manufacturer trained and approved to install purWall™ pre-fabricated wall assemblies.

.2 Certifications:

.1 Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.2 Submit certified test reports showing compliance with specified performance characteristics and physical properties.

SPEC NOTE: Edit and input energy modelling design requirements.

.3 Energy Performance Certificates:

.1 Basis for Certification: [ASHRA 90.1] [MNECB] <Insert reference>.

SPEC NOTE: Retain "Pre-Construction Laboratory Mock-Up Testing" paragraph below if specifying Project-specific preconstruction testing.

.3 Pre-Construction Laboratory Mock-Up Testing:

.1 Furnish test panels, including anchors that are representative of materials proposed for incorporation into the Work.

.2 Preconstruction Testing Service: [Owner will engage] [Engage] a qualified testing agency to perform testing on preconstruction laboratory mock-ups.

.3 Build preconstruction laboratory mock-ups at testing agency facility; use personnel, products, and methods of construction that will be used at Project site.

.1 Size and Configuration: As indicated on Drawings.

.2 Notify Architect [seven] <Insert number> days in advance of the dates and times when preconstruction laboratory mock-ups will be constructed and tested.

.4 Preconstruction Laboratory Mock-up Testing Program: Test preconstruction laboratory mock-ups according to requirements in "Performance Requirements" paragraph. Perform the following tests in the following order:

.1 Structural: ASTM E330 at 50 percent of positive test load.

.1 Air Infiltration: ASTM E283.

.2 Water Penetration under static Pressure: ASTM E331.

.3 Water Penetration under Dynamic Pressure: AAMA 501.1.

.2 Structural: ASTM E330 at 100 percent of positive and negative test loads. Repeat the following:

.1 Air Infiltration: ASTM E283.

.2 Water Penetration under Static Pressure: ASTM E 331.

.3 Interstory Drift: AAMA 501.4 at 100 percent of design displacement. Repeat the following:

.1 Air Infiltration: ASTM E283.

.2 Water Penetration under Static Pressure: ASTM E331.

.4 Vertical Interstory Movement: AAMA 501.7. Repeat the following:

.1 Air Infiltration: ASTM E 283.

.2 Water Penetration under Static Pressure: ASTM E331.

.5 Thermal Cycling: According to AAMA 501.5. Repeat the following:

.1 Air Infiltration: ASTM E283.

.2 Water Penetration under Static Pressure: ASTM E331.

.6 Structural: ASTM E330 at 100 and 150 percent of positive and negative test loads. Repeat the following:

.1 Air Infiltration: ASTM E283.

.2 Water Penetration under Static Pressure: ASTM E331.

.4 Mock-ups:

.1 Build mock-ups to set quality standards for materials and execution.

.2 Build mock-ups of typical pre-fabricated wall assemblies system, as shown on Drawings.

.3 Approval of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless Consultant specifically approves such deviations in writing.

SPEC NOTE: Retain paragraph below if the intention is to make an exception to the default requirement in Section 01 40 00 "Quality Requirements" for demolishing and removing mock-ups.

.4 Subject to compliance with requirements, approved mock-ups may become part of the completed Work if undisturbed at time of Substantial Performance.

1.8 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section [01 61 00 - Common Product Requirements] [with manufacturer's written instructions].

.2 Delivery and Acceptance Requirements: Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect panels, hardware and accessories from dents, nicks, breakages.

.3 Replace defective or damaged materials with new.

SPEC NOTE: Co-ordinate the following paragraph with Section 01 35 21 - LEED Requirements.

.4 Develop [Construction Waste Management Plan] [Waste Reduction Workplan] related to Work of this Section and in accordance with Section [01 35 21 - LEED Requirements].

.5 Packaging Waste Management: remove for reuse [and return] [by manufacturer] of [pallets,] [crates,] [padding,] [packaging materials] as specified in [Construction Waste Management Plan] [Waste Reduction Workplan] in accordance with Section [01 74 21 - Construction/Demolition Waste Management and Disposal] [Section 01 35 21 - LEED Requirements].

1.9 WARRANTY

.1 Product warranty:

.1 Mod Panel Manufacturing will provide warranty to up to 10 years on pre-fabricated wall system only. Cladding and window manufacturer to provide separate warranty.

Part 2 Products

2.1 MANUFACTURERS

.1 Manufacturers List:

.1 Manufacturer/system: Mod Panel Manufacturing purWALL™ System, 17303 102 Ave, Edmonton, AB, T5S 1J8, Phone: (780) 733–9114, email: info@mod-panel.com/ dkennedy@mod-wall.com , URL: www.mod-panel.com/www.purwall.com .

2.2 DESCRIPTION

.1 purWall™ is a patent pending modular wall panel system that provides a air/vapour barrier and high thermal insulation value. The panel is for use inside and outside, and consists of panels with internal z-bar and exterior hat track engineered for fastening cladding without thermal bridging.

2.3 PERFORMANCE REQUIREMENTS

SPEC NOTE: Select R Value/RSI value.

.1 Thermal resistance: Design and construct to provide [R12] [R20] [R30] [R__] minimum calculated in accordance with ASHRAE and MNECB procedures or the project energy model.

.2 Supporting structure tolerances: Design and construct pre-fabricated wall panel assemblies to accommodate erection tolerances of supporting building structure.

SPEC NOTE: Edit and input structural performance requirements.

.3 Structural performance: Provide pre-fabricated wall panel assemblies capable of withstanding the effects of the following loads:

.1 Wind loads: in accordance with the building code and as otherwise indicated where more stringent requirements are required.

.2 Other design loads: as indicated on the drawings.

.3 Deflection limits: For design wind loads, no greater than [L/180].

.4 Serviceability: <insert serviceability requirements>.

SPEC NOTE: Edit and input air infiltration and other water performance requirements.

.4 Air infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested according to ASTM E283 at the following test-pressure difference:

SPEC NOTE: Value in first option in "Test-Pressure Difference" Subparagraph below is equivalent to a 25-mph (40-km/h) wind and is ASTM E 283 default. Products tested to value in second option below, equivalent to a 50-mph (80-km/h) wind.

.1 Test-Pressure Difference: [1.57 lbf/sq. ft. (75 Pa)] [6.24 lbf/sq. ft. (300 Pa)].

.5 Water penetration: Static Pressure: No water penetration when tested according to ASTM E331 at the following test-pressure difference:

SPEC NOTE: Value in first option in "Test-Pressure Difference" Subparagraph below is equivalent to a 34-mph (55-km/h) wind and is ASTM E 331 default. Products tested to value in second option below, equivalent to a 50-mph wind (80-km/h).

.1 Test-Pressure Difference: [2.86 lbf/sq. ft. (137 Pa)] [6.24 lbf/sq. ft. (300 Pa)].

.6 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.

.1 Temperature Change (Range): [120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces] <Insert temperature range>.

.7 Fire-Resistance Test Ratings: Panels to remain in place for not less than 15 minutes in accordance with CAN/ULC S101.

.8 Indicate design designations from listings of another qualified testing agency.

SPEC NOTE: Edit and input sound performance requirements or delete if not required.

.9 Sound performance: <Insert acoustical performance>.

2.4 MATERIALS AND ASSEMBLY FABRICATION

.1 Factory pre-fabricated wall panel assembly panels comprising of the following:

.1 Fire Endurance Test: Panels to remain in place for not less than 15 minutes in accordance with CAN/ULC S101.

.2 Lateral load-bearing cold formed metal framing, including studs, z-girts, and hat tracks in accordance with CSSBI guide specifications.

.3 Glass-Mat Gypsum Sheathing: ASTM C1177/1177M, Regular or Type X as required.

.1 Acceptable materials: GP ‘Densglass’ or CGC ‘Securock’.

.4 Self adhered air and vapor barrier membrane: ASTM E2178 or ULC S741.

.1 Acceptable manufacturers: FT, Soprema, 3M or Henry.

.5 Insulations:

.1 Polyurethane foam insulation:

.1 Polyurethane spray foam, closed cell, CAN/ULC S705.1, and applied to CAN/ULC S705.2.

.2 Flame Spread Index: 25 or less.

.3 Smoke Developed Index: 450 or less.

.2 Mineral board insulation: Rigid, high density, non-combustible, stone wool insulation board designed for use as an exterior continuous insulation in commercial applications.

.1 Compliance:

.1 CAN/ULC S702 Mineral Fibre Thermal Insulation for Buildings - Type 1 Compliant.

.2 ASTM C612 Mineral Fiber Block and Board Thermal Insulation - Type IVB Compliant.

.2 Reaction to fire:

.1 CAN/ULC S114 Determination of Non Combustibility of Building Materials – Non Combustible.

.2 CAN/ULC S102 Flame spread index = 0 Smoke developed index = 0.

.3 ASTM E84 (UL 723) Flame spread index = 0 Smoke developed index = 0.

.3 Thermal resistance (RSI value/25.4 mm at 24 º C: [0.70] m2K/W to ASTM C518.

.4 Moisture resistance:

.1 Moisture sorption: ASTM C1104/C1104M, 0.28 % maximum.

.2 Water vapour transmission: ASTM E96, Desiccant Method 2160 ng/Pa·s·m2.

.3 Water absorption: ASTM C209, 1.2 %.

.5 Dimensional stability: ASTM C356, 0.38 % maximum linear shrinkage at 650 ºC.

.6 Corrosive resistance:

.1 Steel: ASTM C665, Non-corrosive.

.2 Stainless steel: ASTM C795, Non-corrosive.

.7 Density: ASTM C303, 176 kg/m3.

.8 Acceptable products:

.1 ROCKWOOL ‘ComfortBoard 110’

.6 Synthetic Rubber Sealant:

.1 Wide service temperature range: -40 degrees C (-40 F) to 120 degrees C (250 F).

.7 Spray Foam Insulation: Dow Froth Pak.

.8 Fasteners: Engineered corrosion resistant fasteners as designed by structural engineer.

Part 3 Execution

3.1 EXAMINATION

.1 Verify number of panels required prior to panels arriving to site.

.2 Verification of Conditions: verify that conditions of support previously installed under other Sections or Contracts are acceptable for wall assembly installation in accordance with manufacturer's written instructions and installation details.

.1 Visually inspect substrate in presence of [Departmental Representative] [DCC Representative] [Consultant].

.2 Inform [Departmental Representative] [DCC Representative] [Consultant] of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied [and after receipt of written approval to proceed from [Departmental Representative] [DCC Representative] [Consultant]].

3.2 MANUFACTURER'S RECOMMENDATIONS

.1 Comply with manufacturer's written data, including product technical bulletins, product catalogue installation recommendations, product installation recommendations and data sheets.

3.3 PREPARATION

.1 Review erection tolerances of supporting building structure to ensure they conform to tolerances stated

3.4 INSTALLATION

.1 General: Install pre-fabricated wall panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor panels and other components of the Work securely in place, with provisions for thermal and structural movement.

.2 Metal protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.

.3 Clean substrate and provide caulking as required.

.4 Remove pre-fabricated wall panel assemblies from transportation trailer.

.5 Connect lifting hook to internal lifting mechanism hook on panel.

SPEC NOTE:
Installer shall follow lifting safety requirements set forth by regulations of authorities having jurisdiction.

Horizontal tension devices used as a secondary safety measure will be installed on the same floor as the panel that is being installed.

Once the panel has been lifted off the trailer, a tag line will be tied to the bottom of the panel to prevent swinging motion of the panel if wind is present and removed once the panel has been secured to the floor and ceiling. The panel cord will be held by the Receiver.

The panel is lifted in close proximity of the targeted space and bar will be connected to a winch on the same floor if required.

If required, the panel will be retracted into its designated location using the winch being operated by a qualified winch operator. While winching in the panel, the joints between panels will be seamed and compressed together using human force by one of the workers on the floor.

.6 Install fasteners every 610 mm (24”) into top of deflection track and bottom track of panel or as per instructions from Structural Engineer.

.7 Ensure the deflection track has 19mm (3/4”) clearance from top of stud to the track and affix screws in the center of each slot.

.8 Once the panel has been fastened to the substrate top and bottom, remove hook from lifting mechanism and push down mechanism into panel.

.9 Lower panel to adjacent panel and ensure steel studs from one panel to the next are touching and fasten No. 10 screws into studs to connect panel to panel.

.10 Once installed, remove nylon backing from peel and stick membrane for panel transition joints and lap over panel joints. Follow manufacturer’s recommendations for applying air and vapor barrier (AVB) membrane.

.11 Once AVB membrane has been installed properly, apply insulation filler pieces to the gap between panels.

.12 Fill cracks and voids in insulation with spray foam insulation.

.13 Coordinate with mechanical Contractor/Engineer for location of penetration prior to installing panel.

.14 Install self-adhered waterproofing membrane to wall openings and transitions as indicated by manufacturer’s recommendations. Fill in voids using spray foam insulation.

3.5 TOLERANCES

.1 Site Tolerances:

.1 Maintain following installation tolerances:

.1 Maximum variation from plane or location shown on approved shop drawings: 10 mm/m of length and up to 20 mm/100 m maximum.

3.6 FIELD QUALITY CONTROL

SPEC NOTE: Use the following paragraphs only when manufacturer's field services are desired to verify the quality of the installed components. Establish the number and duration of periodic site visits required by the manufacturer and specify below. Consult with the manufacturer for services required. Delete if field services are not required.

.1 Manufacturer’s review:

.1 Have manufacturer of products supplied under this Section review Work involved in handling, installation, application, protection and cleaning of its product[s], and submit written reports in acceptable format to verify compliance of Work with Contract.

.2 Manufacturer's field services: include manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

.3 Schedule site visits to review Work at stages listed:

.1 After delivery and storage of products, and when preparatory Work on which Work of this Section depends is complete, but before installation begins.

.2 [Twice] during progress of Work at [25%] and [60%] complete.

.3 Upon completion of Work, after cleaning is carried out.

.4 Obtain reports within [3] days of review and submit.

SPEC NOTE: Use the following paragraphs only when field testing services are desired to verify the quality of the installation. Delete if field testing services are not required.

.2 Field testing:

.1 Testing Agency: [Owner will engage] [Engage] a qualified testing agency to perform tests and inspections.

.2 Water-Spray Test: After installation, test area of assembly [shown on Drawings] [as directed by Consultant] <Insert area> for water penetration according to AAMA 501.2.

.3 Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect completed pre-fabricate wall panel assembly installation.

.4 Remove and replace wall panels where tests and inspections indicate that they do not comply with specified requirements.

.5 Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.

.6 Prepare test and inspection reports.

3.7 CLEANING

.1 Progress Cleaning: clean in accordance with Section [01 74 11 - Cleaning].

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 11 - Cleaning].

3.8 PROTECTION

.1 Protect installed products and components from damage during construction.

END OF SECTION