SECTION 07 42 13

METAL WALL PANELS

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\*\* NOTE TO SPECIFIER \*\* Alply Insulated Panels, LLC; aluminum plate and insulated metal panels.
This section is based on the products of Alply Insulated Panels, LLC, which is located at:430 SpencerBethalto, IL 62010Tel: 618-973-1283Fax: 888-812-5473 Email: [request info (reedylandw@gmail.com)](https://arcat.com/rfi?action=email&company=Alply%252BInsulated%252BPanels%252C%252BLLC&message=RE%253A%2520Spec%2520Question%2520(07410alp)%253A%2520&coid=30318&spec=07410alp&rep=&fax=888-812-5473%2520)
Web: <http://www.alply.com>
 [ [Click Here](https://arcat.com/company/alply-insulated-panels-llc-30318) ] for additional information.
Alply Insulated Panels LLC has served the architectual building community for more than 50 years, providing an unriveled ability to manufacture the widest range of custom metal panels in North America. Today Alply offers not only state of the art thermally efficient insulated metal panels, but also a comprehensive range of engineered metal plate systems designed to provide the very best of performance and aesthetics.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Smooth, non-embossed aluminum, custom insulated metal wall panel system. (CLASSIC WALL, Snug Seam)
		2. Preformed aluminum square edge plate system for rain screen type wall applications. (TECH WALL 2000)
		3. Preformed aluminum plate system for screen wall applications. (TECH WALL 2002)
	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 07 21 19 - Foamed-In-Place Insulation.
		3. Section 07 62 00 - Sheet Metal Flashing and Trim.
		4. 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 A480 - Standard Specification for General Requirements for Flat Rolled Stainless Steel Plate Sheet.
			2. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
			3. ASTM A792 - Standard Specification for Steel Sheet, 55 percent Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
			4. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
			5. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bar, Wire, Profiles and Tubes.
			6. ASTM C591 - Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.
			7. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
			8. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
			9. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
			10. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
			11. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, Curtain Walls by Uniform Static Air Pressure Difference.
			12. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Doors, Skylights, Curtain Walls by Uniform Static Air Pressure Difference.
		2. American Aluminum Manufacturers Association (AAMA):
			1. AAMA 620 - Voluntary Specification for High Performance Organic Coatings on Aluminum Coil.
		3. FM Global (FM):
			1. FM Approval Standard 4880 - Class 1 Fire Rating of Insulated Wall, Ceiling and Roof Panels.
		4. National Fire Protection Association (NFPA):
			1. NFPA 259 - Standard Test Method for Potential Heat of Building Materials.
		5. US Green Building Council (USGBC):
			1. USGBC Leadership in Energy and Environmental Design (LEED) Green Building Rating System.
		6. Uniform Building Code (UBC):
			1. UBC 17-6 - Multi-Story Fire Evaluation of an Exterior, Non load Bearing, Foam Plastic Insulated Wall System.
			2. UBC 26-4 - Multi-Story Fire Evaluation of an Exterior, Non load Bearing, Foam Plastic Insulated Wall System.
		7. Underwriters Laboratories (UL):
			1. UL 723 - Surface Burning Characteristics of Building Units.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.
		3. Verification Samples: Two representative units of each type, size, pattern and color.
		4. Shop Drawings: Submit detailed drawing for approval, showing:

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

* + - 1. Panel description.
			2. Gauge of metal skins.
			3. Layout of panels.
			4. Panel joint detail both vertical and horizontal.
			5. Track and other integral extrusions.
			6. Sealants and gaskets.
			7. Trim detail.
		1. LEED Submittals:
			1. Product Certificate: For products having recycled content, provide calculation establishing weight per-cent of postconsumer and pre-consumer with value in dollar terms of total recycled content.
		2. Quality Assurance Submittals:
			1. Design Data, Test Reports: Provide manufacturer test reports indicating product compliance with requirements.
			2. Manufacturer Erection Instructions: Provide manufacturer's written installation instructions including proper material storage and maintenance instructions.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
		2. Installer Qualifications:
			1. Installer shall be approved by the manufacturer; installer to provide letter of approval.
			2. Company specializing in performing Work of this section with minimum five years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on 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: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Pre-installation Conference: Conduct a pre-installation conference at the job site attended by Owner, Architect, Manufacturer's Representative and Panel Installer. Coordinate structural support requirements, and installation of any additional air/water barriers that relate to the insulated wall panel system.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Deliver panels to the project site in manufacturer's original condition in fully protected crate.
		2. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
			1. Unload, store and erect metal panels in a manner to prevent bending, warping, twisting and surface damage.
			2. Do not store crates on top of each other.
		3. Protect from damage due to weather, excessive temperature, and construction operations.
	3. PROJECT CONDITIONS
		1. 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 recommended limits.
	4. WARRANTY
		1. Limited Warranty:
			1. Manufacturer agrees to repair or replace panels that suffer failure due to materials or workmanship within the specified warranty period.
			2. Warranty Period: Five years from date of Substantial Completion or 5 years from the date of shipment from manufacturer's plant, whichever occurs first.
		2. Finish Warranty:
			1. Manufacturer agrees to repair or replace panels that exhibit deterioration of fluropolymer finish beyond accepted norms when tested in accordance with ASTM D4214 and ASTM D2244.
			2. Warranty Period: Twenty years from date of Substantial Completion or 20 years from the date of shipment from manufacturer's plant, whichever occurs first.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Alply Insulated Panels, LLC, which is located at:430 SpencerBethalto, IL 62010Tel: 618-973-1283Fax: 888-812-5473 Email: [request info (reedylandw@gmail.com)](https://arcat.com/rfi?action=email&company=Alply%252BInsulated%252BPanels%252C%252BLLC&message=RE%253A%2520Spec%2520Question%2520(07410alp)%253A%2520&coid=30318&spec=07410alp&rep=&fax=888-812-5473%2520);Web: <http://www.alply.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.

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

* 1. SMOOTH, NON-EMBOSSED, ALUMINUM, CUSTOM INSULATED METAL WALL PANELS
		1. Performance and Design Requirements:
			1. Design Criteria:
				1. Panel shall be designed and manufactured to resist a wind load as follows:

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

\_\_\_\_\_\_ positive and negative loading.

As required by Code.

As indicated on Drawings.

* + - * 1. Deflection Criteria: L/180, with a maximum of 3/4 inch (19 mm) when tested in accordance with ASTM E330.
			1. Structural Performance: Structural performance shall meet wind load criteria verified by test results obtained from physical testing conducted in accordance with ASTM E330.
			2. Bond Strength: The tensile strength of the bond between the isocyanurate core and the metal faces mustbe a minimum of 27 psi (186 kPa). No delamination is allowed.
			3. Static Water Penetration: There shall be no uncontrolled water leakage when tested in accordance with ASTM E331 at 7.0 psf (0.34 kPa) with water spray rate of 5 gallons (19 L) per hour per sf (0.09 sq.m.) minimum for fifteen minutes.
			4. Weatherization: Demonstrate no deterioration in water leakage performance over time by simulated weatherization testing to ASTM E331. Panel samples must be placed in a chamber with a thermal load of 160 degrees F (71 degrees C) on the hot side and minus 15 degrees F (minus 26 degrees C) on the cold side and the interior chamber stabilized at 68 degrees F (20 degrees C). The test will be discontinued after 3 cycles with each cycle maintained for two hours. No uncontrolled water leakage is acceptable.
			5. Thermal: Polyisocyanurate (ISO) core panels shall provide the following R-Values as tested in accordance with ASTM C51:
				1. Flat, 2 inch (51 mm) thick: R-14.
				2. Flat, 3 inch (76 mm) thick: R-21.
			6. Fire Performance:
				1. Factory Mutual FM 4880 Full Scale Building Corner Test: The insulated panel system shall have FM approval as Specification Tested per ASTM E84 Test Method, and under Approval Standard 4480 for Class 1.
				2. Factory Mutual FM 4880: The insulation core shall in itself have FM approval as Specification Tested per ASTM E84 Test Method, and under Approval Standard 4480 for Class 1.
				3. ASTM E84 Surface Burning Characteristics: The insulating core shall have been tested in accordance with ASTM E84 for surface burning characteristics. The core shall have a maximum flame spread of 25 and a smoke developed rating of 450.
				4. UL 723 Surface Burning Characteristics of Building Units: The insulating core shall have been tested in accordance with UL Test 723 (ASTM E84) for surface burning characteristics. The core shall have a maximum flame spread of 25 and a smoke developed rating of 450.
				5. UBC 26-4 Multi Story Fire Evaluation: Exterior wall panel assembly shall meet the requirements of UBC 17-6 Multi-Story Fire Evaluation of an Exterior, Non Load -Bearing, Foam-Plastic Insulated Wall Panel.
				6. NFPA 259-98 Potential Heat Source of Building Materials: The insulation core shall be tested to NFPA 259 and the heat content of the core established.
			7. Insulating Core Performance:
				1. Density Nominal, ASTM C591: 2.1 pcf (34 kg/cu.m.).
				2. Shear Strength, ASTM C591: 27 psi (186 kPa).
				3. Compressive Strength, ASTM C591: 26 psi (179 kPa).
				4. Tensile Strength, ASTM C591: 33 psi (228 kPa).
				5. Closed Cell Content, ASTM C591: 95 percent minimum.
				6. FM Global Content: Class 1 per FM 4880.
				7. Surface Burning Characteristics of un-faced foam core when tested in accordance with ASTM E84.

Flame Spread: Less than 25.

Smoke Developed: Less than 195.

* + - * 1. Potential Heat Content per NFPA 259: 11,281 BTU/lb.
				2. Appearance and Integrity: No voids or striations within the foam will be acceptable. The absence of voids and striations shall be proven by visual inspection of both the submittal sample and production samples.

\*\* NOTE TO SPECIFIER \*\* Delete basis of design options not required.

* + 1. Basis of Design: Alply Snug Seam Custom Insulated Panel; as manufactured by Alply Insulated Panels, LLC.
			1. Panel Dimensions:

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - * 1. Panel Thickness: 1 inch (25 mm).
				2. Panel Thickness: 2 inches (51 mm).
				3. Panel Thickness: 3 inches (76 mm).
				4. Panel Thickness: 4 inches (102 mm).
				5. Panel Thickness: 5 inches (127 mm).
				6. Panel Thickness: 6 inches (152 mm).
				7. Panel Thickness: As indicated on Drawings.
				8. Panel Thickness: \_\_\_ inches (\_\_\_ mm).

\*\* NOTE TO SPECIFIER \*\* Delete width options not required.

* + - * 1. Panel Width: 12 inches (305 mm).
				2. Panel Width: 24 inches (610 mm).
				3. Panel Width: 36 inches (914 mm).
				4. Panel Width: 48 inches (1219 mm).
				5. Panel Width: 60 inches (1524 mm).
				6. Panel Width: As indicated on Drawings.
				7. Panel Width: \_\_\_ inches (\_\_\_ mm).

\*\* NOTE TO SPECIFIER \*\* Delete length options not required.

* + - * 1. Panel Length: 20 feet (6096 mm).
				2. Panel Length: As indicated on Drawings.
				3. Panel Length: \_\_\_ ft (\_\_\_ mm).
			1. Panel joint shall feature aluminum extrusions on the entire perimeter, attached mechanically to panel.
				1. Fabricated attachment clips are not acceptable as part of the panel system.
				2. The panel joint shall be sealed both by a bead of silicone between extrusions and an extruded silicone gasket, designed to lock into place within the extrusion assembly.
				3. A wet seal joint between panels is not acceptable.

\*\* NOTE TO SPECIFIER \*\* Delete panel joint options not required.

* + - * 1. Panel joints shall be recessed a minimum of \_\_\_ inches (\_\_\_ mm) from the panel face.
				2. Panel joints shall be recessed from the panel face as indicated on Drawings.
				3. Panel joints shall be flush with panel face skin.
			1. No field forming of panels to be allowed.
			2. Exterior Face of Panel:
				1. Material: Coil material shall be 0.040 inch (1.0 mm) thick aluminum in accordance with ASTM B209, 3003-H14 aluminum.
				2. Profile: Aluminum face skin shall be smooth and flat.

No stucco embossing is acceptable either directional or non-directional.

Flatness criteria shall be 0.010 inch (0.25 mm) in a 6 inch (152 mm) rule.

No oil canning is acceptable.

\*\* NOTE TO SPECIFIER \*\* Delete finish system options not required.

* + - * 1. Finish System: 1.0 mil (0.025 mm). Fluoropolymer, PVDF, Two Coat system: 0.2 mil (0.005 mm) primer with 0.8 mil (0.02 mm) Kynar 500, 70 percent solid color coat.
				2. Finish System: 1.0 mil (0.025 mm). Fluoropolymer, PVDF, Two Coat system: 0.2 mil (0.005 mm) primer with 0.8 mil (0.02 mm) Kynar 500, 70 percent mica color coat.
				3. Finish System: 1.5 mil (0.038 mm). Fluoropolymer, PVDF, Three Coat system: 0.2 mil (0.005 mm) primer with 0.8 mil (0.02 mm) Kynar 500, 70 percent metallic color coat and 0.5 mil (0.013 mm) clear coat.
			1. Interior Face of Panel:
				1. Material: Coil material shall be 0.040 inch (1.0 mm) thick aluminum in accordance with ASTM B209, 3003-H14 aluminum.
				2. Profile: Standard flat, non-profiled.
				3. Texture: Smooth.
				4. Interior Finish: Modified polyester finish with a total minimum dry film thickness of 0.9 to 1.1 mil (0.023 to 0.028 mm) including primer.

Color: Standard aluminum mill finish.

* + - 1. Insulating Core: Cured board stock, sanded flat, and fully inspected prior to lamination. Core material shall be polyisocyanurate.
			2. Adhesive: Structural Urethane Adhesive, 100 percent solids and 100 percent solvent free.
		1. Basis of Design: Alply CLASSIC WALL Architectural Insulated Panel Wall System; as manufactured by Alply Insulated Panels, LLC.
			1. Panel Dimensions:

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - * 1. Panel Thickness: 1 inch (25 mm).
				2. Panel Thickness: 2 inches (51 mm).
				3. Panel Thickness: 3 inches (76 mm).
				4. Panel Thickness: 4 inches (102 mm).
				5. Panel Thickness: 5 inches (127 mm).
				6. Panel Thickness: 6 inches (152 mm).
				7. Panel Thickness: As indicated on Drawings.
				8. Panel Thickness: \_\_\_ inches (\_\_\_ mm).

\*\* NOTE TO SPECIFIER \*\* Delete width options not required.

* + - * 1. Panel Width: 12 inches (305 mm).
				2. Panel Width: 24 inches (610 mm).
				3. Panel Width: 36 inches (914 mm).
				4. Panel Width: 48 inches (1219 mm).
				5. Panel Width: 60 inches (1524 mm).
				6. Panel Width: As indicated on Drawings.
				7. Panel Width: \_\_\_ inches (\_\_\_ mm).

\*\* NOTE TO SPECIFIER \*\* Delete length options not required.

* + - * 1. Panel Length: 20 feet (6096 mm).
				2. Panel Length: As indicated on Drawings.
				3. Panel Length: \_\_\_ ft (\_\_\_ mm).
			1. Panel joint shall feature aluminum extrusions on the entire perimeter, attached mechanically to panel.
				1. Fabricated attachment clips are not acceptable as part of the panel system.
				2. The panel joint shall be sealed both by a bead of silicone between extrusions and an extruded silicone gasket, designed to lock into place within the extrusion assembly.
				3. A wet seal joint between panels is not acceptable.

\*\* NOTE TO SPECIFIER \*\* Delete panel joint options not required.

* + - * 1. Panel joints shall be recessed a minimum of \_\_\_ inches (\_\_\_ mm) from the panel face.
				2. Panel joints shall be recessed from the panel face as indicated on Drawings.
				3. Panel joints shall be flush with panel face skin.
			1. No field forming of panels to be allowed.
			2. Exterior Face of Panel:

\*\* NOTE TO SPECIFIER \*\* Delete material options not required.

* + - * 1. Material: Coil material shall be 24 gauge Grade 33, G90 galvanized steel in accordance with ASTM A653.
				2. Material: Coil material shall be 22 gauge Grade 33, G90 galvanized steel in accordance with ASTM A653.
				3. Material: Coil material shall be 24 gauge AZ50 Galvalume in accordance with ASTM A792.
				4. Material: Coil material shall be 22 gauge AZ50 Galvalume in accordance with ASTM A792.
				5. Profile: Face skin shall be smooth and flat.

No stucco embossing is acceptable either directional or non-directional.

Flatness criteria shall be 0.010 inch (0.25 mm) in a 6 inch (152 mm) rule.

No oil canning is acceptable.

\*\* NOTE TO SPECIFIER \*\* Delete finish system options not required.

* + - * 1. Finish System: 1.0 mil (0.025 mm). Fluoropolymer, PVDF, Two Coat system: 0.2 mil (0.005 mm) primer with 0.8 mil (0.02 mm) Kynar 500, 70 percent solid color coat.
				2. Finish System: 1.0 mil (0.025 mm). Fluoropolymer, PVDF, Two Coat system: 0.2 mil (0.005 mm) primer with 0.8 mil (0.02 mm) Kynar 500, 70 percent mica color coat.
				3. Finish System: 1.5 mil (0.038 mm). Fluoropolymer, PVDF, Three Coat system: 0.2 mil (0.005 mm) primer with 0.8 mil (0.02 mm) Kynar 500, 70 percent metallic color coat and 0.5 mil (0.013 mm) clear coat.
			1. Interior Face of Panel:

\*\* NOTE TO SPECIFIER \*\* Delete material options not required.

* + - * 1. Material: Coil material shall be 24 gauge Grade 33, G90 galvanized steel in accordance with ASTM A653.
				2. Material: Coil material shall be 24 gauge AZ50 Galvalume in accordance with ASTM A792.
				3. Profile: Standard flat, non-profiled.
				4. Texture: Smooth.
				5. Interior Finish: Modified polyester finish with a total minimum dry film thickness of 0.9 to 1.1 mil (0.023 to 0.028 mm) including primer.

Color: Standard aluminum mill finish.

* + - 1. Insulating Core: Cured board stock, sanded flat, and fully inspected prior to lamination. Core material shall be polyisocyanurate.
			2. Adhesive: Structural Urethane Adhesive, 100 percent solids and 100 percent solvent free.
		1. Accessories:
			1. Fasteners: Fasteners to be Climaseal coated or stainless steel as recommended by manufacturer.
			2. Trim: All metal trim shall be same gauge, material and coating color as exterior face of insulated metal panel.
			3. Gasket: Joinery gaskets shall be extruded, dry seal silicone at all vertical and horizontal panel joints. No wet seal sealants shall be acceptable with the gasket specified system with the exception of interface details with adjoining systems or as indicated on drawings.

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

* + - * 1. Gasket Color: Standard black.
				2. Gasket Color: Custom color as selected by architect.
				3. Gasket Color: As indicated on drawings.
				4. Gasket Color: \_\_\_\_\_.
	1. PREFORMED ALUMINUM SQUARE EDGE PLATE SYSTEM FOR RAIN SCREEN TYPE WALL APPLICATIONS
		1. Performance and Design Requirements:
			1. Design Criteria:
				1. Panel shall be designed and manufactured to resist a wind load as follows:

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

\_\_\_\_\_\_ positive and negative loading.

As required by Code.

As indicated on Drawings.

* + - * 1. Deflection Criteria shall be L/180, with a maximum of 3/4 inch (19 mm) when tested in accordance with ASTM E330.
			1. Structural Performance: Structural performance shall meet wind load criteria verified by test results obtained from physical testing conducted in accordance with ASTM E330.
			2. Thermal: Provide design and assembly that allows for thermal movements resulting from the following maximum changes of surface temperatures of plate panels by preventing deformation of panels and overstressing of components: Minus 40 degrees F (minus 40 degrees C) to 180 degrees F (82 degrees C) material surface.
		1. Basis of Design: Alply TECH WALL Aluminum Plate System 2000; as manufactured by Alply Insulated Panels, LLC.
			1. Performance Requirements:
				1. Water Penetration: Any water that enters behind the panel face must be allowed to exit by natural evaporation or evacuation at the base. The system must be used with a waterproof weather barrier to prevent the possibility of water ingress to the warm side.
				2. Air Infiltration: The system shall be open jointed and allow for the free movement of air under normal atmospheric conditions.
			2. Materials:
				1. Aluminum Extrusions: Extruded aluminum track and support members shall be a minimum 0.093 inch (2.4 mm) thick to ASTM B221, alloy 6063-T6 or 6061-T6 as standard for manufacturer; supplied pre-cut to size, including all necessary stainless steel fasteners for concealed installation.
				2. Aluminum Plate: ASTM B209, Aluminum Association specification sheet 3003-H14 or 3105-H14 or 3105-H24 as standard for manufacturer. Thickness: 0.187 inch (4.75 mm).
				3. Sealants: Sealants used with the Aluminum Panel System must be compatible with the total system design and only used in accordance with the manufacturer's recommendations.
			3. Finish:
				1. Exterior Paint finish shall be Spray-Applied (two coat) fluoropolymer coating to AAMA 620 containing not less than 70 per cent PVDF resin by weight in color coat.
				2. Color as selected by Architect from manufacturer's standard range.
		2. Basis of Design: Alply TECH WALL Aluminum Plate System 2002; as manufactured by Alply Insulated Panels, LLC.
			1. Performance Requirements:
				1. Water Penetration: Air infiltration shall not exceed .06 cfm (0.003 cu.m./minute) per sf (0.09 sq.m.) for the fixed wall when tested in accordance with ASTM E283.
				2. Air Infiltration: Air infiltration shall not exceed .06 cfm (0.003 cu.m./minute) per sf (0.09 sq.m.) for the fixed wall when tested in accordance with ASTM E283.
			2. Materials:
				1. Stainless Steel clips: ASTM A480, 304 Grade or as standard for the manufacturer. Thickness: 0.125 inch (3.18 mm).
				2. Aluminum Plate: ASTM B209, Aluminum Association specification sheet 3003-H14 or 3105-H14 or 3105-H24 as standard for manufacturer. Thickness: 0.125 inch (3.18 mm).
				3. Sealants: Sealants used with the Aluminum Panel System must be compatible with the total system design and only used in accordance with the manufacturer's recommendations.
			3. Finish:
				1. Exterior Paint finish shall be Spray-Applied (two coat) fluoropolymer coating to AAMA 620 containing not less than 70 per cent PVDF resin by weight in color coat.
				2. Color as selected by Architect from manufacturer's standard range.
		3. Fabrication:
			1. 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. Comply with stated dimensional requirements and tolerances.
			2. Tolerances: Maximum allowable tolerances shall be as follows:
				1. Panel bow: 0.2 percent of panel dimensions in width and length up to 0.1875 inch (4.762 mm) maximum.
				2. Width or Length, Panels Up to 48 inches (1219 mm): Plus or minus 0.032 inches (0.81 mm).
				3. Width or Length, Panels Over 48 inches (1219 mm): Plus or minus 0.064 inches (1.6 mm).
				4. Squareness: 0.1875 inches (4.762 mm) differences between diagonal measurements.
				5. Camber: 0.32 inches (8.1 mm) maximum.
			3. All panels to be formed to specified dimensions with tolerances to accommodate expansion and contraction between panels and structural members. Curved panels shall be accurately formed to radii in plant of manufacturer.
			4. All panel edges are to be smoothed and square after shearing.
			5. Panel surfaces shall be free of scratches or other visible marks.
			6. Reinforce panels greater than 48 inches (1219 mm) in height with aluminum stiffeners to resist positive and negative wind load. Stiffeners to be factory manufactured and supplied.
		4. Accessories:
			1. Fasteners: Fasteners to be stainless steel as recommended by manufacturer.
			2. Trim: Any metal trim shall be same alloy material and coating color as exterior face of metal panel.
1. EXECUTION
	1. EXAMINATION
		1. Provide field measurements to manufacturer as required to achieve proper fit of the insulated panel.
		2. Supporting Steel: All structural supports required for installation of panels shall be by others. Support members shall be installed within the following tolerances:
			1. Plus or minus 1/8 inch (3 mm) in 5 feet (1524 mm) in any direction along plane of framing.
			2. Plus or minus 1/4 inch (6 mm) cumulative in 20 feet (6096 mm) in any direction along plane of framing.
			3. Plus or minus 1/2 inch (13 mm) from framing plane on any elevation.
			4. Plumb or level within 1/8 inch (3 mm) at all changes of transverse for performed corner panel applications.
		3. Examine individual panels upon removing from the bundle; notify manufacturer of panel defects.
		4. Do not begin installation until substrates have been properly constructed and prepared.
		5. If substrate preparation is the responsibility of another installer, notify Architect in writing 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. PANEL INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
		2. Install panels plumb, level, and true-to-line to dimensions and layout indicated on approved shop drawings.
		3. Panel anchorage shall be structurally sound and per engineering recommendations.
		4. Where aluminum materials come into contact with dissimilar materials, an isolation trim or tape shall be inserted at fastening locations.
	4. TRIM INSTALLATION
		1. Place trim and trim fasteners only as indicated per details on the approved shop drawings.

\*\* NOTE TO SPECIFIER \*\* Following two paragraphs are for insulated panels only. Delete if not required.

* + 1. Field drill weep holes where appropriate in horizontal trim; minimum 1/4 inch (6 mm) diameter at 24 inches (610 mm) on center.
		2. Place a continuous strip of butyl tube sealant on closure trims for the length of the panel to be covered by trim.

\*\* NOTE TO SPECIFIER \*\* First Article below is for exposed joints in insulated panel systems. Second Article below is for metal plate panel systems. Delete sealant installation option not required.

* 1. SEALANT INSTALLATION
		1. Clean and prime surfaces to receive exterior exposed sealants in accordance with sealant manufacturer's recommendations.
		2. Follow sealant manufacturer's recommendations for joint width-to-depth ratio, application temperature range, size and type of backer rod, and compatibility of materials for adhesion.
		3. Direct contact between butyl and silicone sealants shall not be permitted.
	2. SEALANT INSTALLATION
		1. Only apply sealants to joints as indicated on manufacturer's shop drawings.
	3. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Remove any protective film immediately after installation.
		2. Clean products in accordance with the manufacturer's recommendations.
		3. Touch-up, repair or replace damaged products before Substantial Completion.
		4. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

END OF SECTION