SECTION 08 44 13

ALUMINUM CURTAIN WALLS

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\*\* NOTE TO SPECIFIER \*\* PRL Glass Systems, Inc.; aluminum curtain walls.
This section is based on the products of PRL Glass Systems, Inc., which is located at:13644 Nelson Ave.City of Industry, CA 91746Toll Free Tel: 800-433-7044Fax: 626-968-9256Email: [request info (info@prlglass.com)](https://arcat.com/rfi?action=email&company=PRL%252BGlass%252BSystems%252C%252BInc.&message=RE%253A%2520Spec%2520Question%2520(08920prl)%253A%2520&coid=48090&spec=08920prl&rep=&fax=626-968-9256)
Web: <https://prlglass.com>
 [ [Click Here](https://arcat.com/company/prl-glass-systems-inc-48090) ] for additional information.
PRL Glass Company was founded in 1989 and is now family owned by the Landeros family. The company originally started its operations under a 3,000 square foot building with 3 employees in the city of Santa Ana, Ca. At the start of the business we began offering glass and mirror stock sheets to the Glazing Industry. We slowly started offering fabricated Glass, Shower Doors, All Glass Entrance Doors and Beveled Mirrors. With the idea in mind to have the fastest lead times in the industry. For a period of 10 yrs all of our fabricated tempered glass was tempered by others. In 1999 we took the initiative to purchase our first tempering oven ("all in" like in a poker game) and now we have 3 tempering ovens. To this day PRL continues with the same vision and basic fundamentals as day one and that is to have the fastest lead times in the industry.
You our loyal customer have given us the opportunity to grow from 3 employees to 300+ employees and from 3,000 sq. ft. to over 250,000 sq.ft . It has been a dream for PRL and a great challenge to reach this monumental achievement, although let's not forget all the hard work and sleepless nights and sacrifices that it's taken us to get where we are today. PRL now offers over 20 complete products lines that we provide to the commercial and residential construction industry, as well as to the furniture manufactures. We look forward to continue to grow in the years to come and continue to offer the best service and highest quality in the industry.

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Aluminum curtain walls.
	1. RELATED SECTIONS

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

* + 1. Section 05 52 17 - Roof Fall Protection.
		2. Section 08 41 13 - Aluminum-Framed Entrances and Storefronts.
		3. Section 08 43 26 - All-Glass Storefronts.
		4. Section 08 43 33 - Folding Glass Wall System.
		5. Section - .
		6. Section 08 81 00 - Glass Glazing.
	1. REFERENCES

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

* + 1. American Architectural Manufacturers Association (AAMA):
			1. AAMA/NWWDA 101/I.S. 2-97 - Voluntary Specification, Performance Requirements and Test Procedures for Air Leakage Resistance, Water Penetration Resistance, Structural Loading, Forced Entry Resistance.
			2. AAMA-501.1 - Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
			3. AAMA 501.4 - Recommended Static Test Method for Evaluating Curtain Wall and Storefront Systems Subjected to Seismic and Wind Induced Interstory Drifts.
			4. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
		2. ASTM International (ASTM):
			1. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
			2. ASTM E 283 - Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors under Specified Pressure Differences across the Specimen.
			3. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
			4. ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
			5. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
			6. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
		3. National Fenestration Rating Council (NFRC):
			1. NFRC-100 - Procedure for Determining Fenestration Product U-factors.
			2. NFRC-200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings:
			1. Provide drawings showing each configuration.

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

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
		2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
		2. Installer Qualifications: Minimum 2 year experience installing similar products.

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

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Finish areas designated by Architect.
			2. Do not proceed with remaining work until workmanship is approved by Architect.
			3. Refinish mock-up area as required to produce acceptable work.
	1. PRE-INSTALLATION MEETINGS
		1. Convene minimum two weeks prior to starting work of this section.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
		2. Handling: Handle materials to avoid damage.
	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. SEQUENCING
		1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: PRL Glass Systems, Inc., which is located at:13644 Nelson Ave.City of Industry, CA 91746Toll Free Tel: 800-433-7044Fax: 626-968-9256Email: [request info (info@prlglass.com)](https://arcat.com/rfi?action=email&company=PRL%252BGlass%252BSystems%252C%252BInc.&message=RE%253A%2520Spec%2520Question%2520(08920prl)%253A%2520&coid=48090&spec=08920prl&rep=&fax=626-968-9256);Web: <https://prlglass.com>

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

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

PRL's Curtain wall is a rain screened, pressure equalized, high performance product for buildings that require the highest of performance and quality.

* 1. CURTAIN WALLS
		1. Frame : 2-1/2 inches (64 mm) face width:

\*\* NOTE TO SPECIFIER \*\* Delete glazing type not required.

* + - 1. Glazing: Structural glaze verticals.
			2. Glazing: Structural glaze horizontals.

\*\* NOTE TO SPECIFIER \*\* Delete frame depth not required.

* + 1. 6 Inches (152 mm) Depth:
			1. Product: PLCW-600 as manufactured by PRL Glass Systems, Inc.
			2. Performance:
				1. Air infiltration: Limit air leakage through fixed glazing and frames to 0.026 cfm/ft2/min (0.01 L/s/m2) when tested in accordance with ASTM E-283-04 at a cross pressure of 6.24 psf (0.30 kPa).
				2. Water Penetration under Static Pressure: System shall not evidence uncontrolled water penetration at a cross pressure of 15 psf (103 kPa) when tested in accordance with ASTM-E331-00.
				3. Water Penetration under Dynamic Pressure: System shall not evidence uncontrolled water penetration at a cross pressure of 15 psf (103 kPa) when tested in accordance with AAMA-501.1-05.
				4. Design Wind Load: Limit mullion deflection to L/175 up to 13 feet-6 inches (4115 mm) and L/240+1/4 inch (6 mm) for spans above 13 feet-6 inches (4115 mm) when measured in accordance with ASTM E330-02 at a cross pressure of 40 psf (276 kPa).
				5. Seismic Racking: Compliance that system can accommodate a lateral movement of 3/4 inch (19 mm) when tested to AAMA 501.4-00.
				6. Thermal Conductance: Whole product rating shall be determined in accordance with NFRC-100. Show that specified product can achieve U-factor of no greater than 0.37 (Values based on structural glaze verticals, and insulated glass comprising exterior light of 1/4 inch (6 mm) bronze, 1/2 inch (13 mm) space with argon fill and an interior light of 1/4 inch (6 mm) SunGuard SNX 62/27).
				7. Solar Heat Gain: Whole product rating shall be determined in accordance with NFRC-200. Show that the specified product can achieve a SHGC of no greater than 0.36. (Values based on structural glaze verticals, and insulated glass comprising exterior light of 1/4 inch (6 mm) bronze, 1/2 inch (13 mm) space with argon fill and an interior light of 1/4 inch (6 mm) SunGuard SNX 62/27).
				8. Large Missile Impact: Design and fabrication shall meet the performance requirements in the referenced test procedures for a +1676/-2873 Pa (+35/-60 psf) design pressure with missile impacts corresponding to Missile Level D and Wind Zone 3 for a Basic Protection Rating. (Laminated I.G. 1-1/8 inches (29 mm) I.G. Marine glazed into a rubber glazing gasket.
		2. 7 Inches (178 mm) Depth:
			1. Product: PLCW-700 as manufactured by PRL Glass Systems, Inc.
			2. Performance:
				1. Air infiltration: Limit air leakage through fixed glazing and frames to 0.026 cfm/ft2/min (0.01 L/s/m2) when tested in accordance with ASTM E-283-04 at a cross pressure of 6.24 psf (0.30 kPa).
				2. Water Penetration under Static Pressure: System shall not evidence uncontrolled water penetration at a cross pressure of 15 psf (103 kPa) when tested in accordance with ASTM-E331-00.
				3. Water Penetration under Dynamic Pressure: System shall not evidence uncontrolled water penetration at a cross pressure of 15 psf (103 kPa) when tested in accordance with AAMA-501.1-05.
				4. Design Wind Load: Limit mullion deflection to L/175 up to 13 feet-6 inches (4115 mm) and L/240+1/4 inch (6 mm) for spans above 13 feet-6 inches (4115 mm) when measured in accordance with ASTM E330-02 at a cross pressure of 40 psf (276 kPa).
				5. Seismic Racking: Compliance that system can accommodate a lateral movement of 3/4 inch (19 mm) when tested to AAMA 501.4-00.
				6. Thermal Conductance: Whole product rating shall be determined in accordance with NFRC-100. Show that specified product can achieve U-factor of no greater than 0.37 (Values based on structural glaze verticals, and insulated glass comprising exterior light of 1/4 inch (6 mm) bronze, 1/2 inch (13 mm) space with argon fill and an interior light of 1/4 inch (6 mm) SunGuard SNX 62/27).
				7. Solar Heat Gain: Whole product rating shall be determined in accordance with NFRC-200. Show that the specified product can achieve a SHGC of no greater than 0.36. (Values based on structural glaze verticals, and insulated glass comprising exterior light of 1/4 inch (6 mm) bronze, 1/2 inch (13 mm) space with argon fill and an interior light of 1/4 inch (6 mm) SunGuard SNX 62/27).
		3. 10 Inches (254 mm) Depth::
			1. Product: PLCW-1000 as manufactured by PRL Glass Systems, Inc.
			2. Performance:
				1. Air infiltration: Limit air leakage through fixed glazing and frames to 0.026 cfm/ft2/min (0.01 L/s/m2) when tested in accordance with ASTM E-283-04 at a cross pressure of 6.24 psf (0.30 kPa).
				2. Water Penetration under Static Pressure: System shall not evidence uncontrolled water penetration at a cross pressure of 15 psf (103 kPa) when tested in accordance with ASTM-E331-00.
				3. Water Penetration under Dynamic Pressure: System shall not evidence uncontrolled water penetration at a cross pressure of 15 psf (103 kPa) when tested in accordance with AAMA-501.1-05.
				4. Design Wind Load: Limit mullion deflection to L/175 up to 13 feet-6 inches (4115 mm) and L/240+1/4 inch (6 mm) for spans above 13 feet-6 inches (4115 mm) when measured in accordance with ASTM E330-02 at a cross pressure of 40 psf (276 kPa).
				5. Seismic Racking: Compliance that system can accommodate a lateral movement of 3/4 inch (19 mm) when tested to AAMA 501.4-00.
				6. Thermal Conductance: Whole product rating shall be determined in accordance with NFRC-100. Show that specified product can achieve U-factor of no greater than 0.37 (Values based on structural glaze verticals, and insulated glass comprising exterior light of 1/4 inch (6 mm) bronze, 1/2 inch (13 mm) space with argon fill and an interior light of 1/4 inch (6 mm) SunGuard SNX 62/27).
				7. Solar Heat Gain: Whole product rating shall be determined in accordance with NFRC-200. Show that the specified product can achieve a SHGC of no greater than 0.36. (Values based on structural glaze verticals, and insulated glass comprising exterior light of 1/4 inch (6 mm) bronze, 1/2 inch (13 mm) space with argon fill and an interior light of 1/4 inch (6 mm) SunGuard SNX 62/27).
	1. MATERIALS
		1. Material: Frames, assembly clips, trims and miscellaneous extrusions shall be extruded from Aluminum 6063-T6 alloy.
		2. Glazing Gaskets:
			1. Compression type gaskets. Extruded EPDM (Ethylene Propylene Diene Monomer) push in place gasket. Dense 60 Durometer Shore "A" - ASTM C864 Option II
			2. Structural silicone compatible gasket: true silicone gasket -70 Durometer Shore "A", complying with ASTM C1115, Type C.
		3. Thermal isolators: extruded rigid Geon complying with AAMA-303 and ASTM-D-1784-9.
		4. End Dams: Pre-molded end dams made from closed cell EPDM (Ethylene Propylene Diene Monomer) sponge to ASTM C509.

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

* 1. SUN CONTROL:

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

* + 1. Vertical Sunshade:

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

* + 1. Horizontal Sunshade:

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

* + 1. Light Shelf Adaptable:
	1. FINISH

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

* + 1. Class II clear anodized aluminum shall conform to AA-M12-C22-A31.
		2. Class I clear anodized aluminum shall conform to AA-M12-C22-A41.
		3. Class II color anodized aluminum shall conform to AA-M12-C22-A34.

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

* + - 1. Color: Champagne.
			2. Color: Light Bronze.
			3. Color: Medium Bronze.
			4. Color: Dark Bronze.
			5. Color: Black.
		1. Class I color anodized aluminum shall conform to AA-M12-C22-A44.

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

* + - 1. Color: Champagne.
			2. Color: Light Bronze.
			3. Color: Medium Bronze.
			4. Color: Dark Bronze.
			5. Color: Black.
		1. Fluorocarbon finish complying with AAMA 2605.
			1. Resin: 70% PVDF resin shall be Kynar using Kynar500/Hylar5000.
			2. Cleaned and pretreated with chromium phosphate
			3. Coat extrusions with approved primers to minimum dry film thickness of 0.20 mil (.0051 mm).
			4. Color coat shall be a minimum dry film thickness of 1.0 mil (.025 mm).
			5. Approved Coating Manufactures:
				1. PPG Industries
				2. Valspar Corporation
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions.
	4. FIELD QUALITY CONTROL
		1. Owner will engage an independent AAMA approved testing agency.
		2. Conduct test under the supervision of and in the presence of the Owner, Architect, and Construction Manager.
		3. Test wall in accordance with AAMA 501.2-94.
	5. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION