SECTION 08485

IMPACT-RESISTANT ALUMINUM-FRAMED ENTRANCES AND STOREFRONT

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\*\* NOTE TO SPECIFIER \*\* PGT Industries; aluminum-framed entrances and storefront; residential and commercial impact-resistant windows and doors.

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This section is based on the products of PGT Industries, which is located at:

 1070 Technology Drive

 North Venice, FL 34275

 Toll Free Tel: (800) 262-6019

 Tel: (941) 480-1600

 Fax: (941) 486-8369

 Email:

 Web: http://www.pgtindistries.com

 [{click Here} for additional information.](http://www.arcat.com/arcatcos/cos36/arc36360.html?src=spec)

PGT® is the nation's leading manufacturer and supplier of residential and commercial impact-resistant windows and doors. Located in southwest Florida, PGT products are sold in the Eastern U.S., the Gulf Coast, the Caribbean, and other international markets. PGT aspires to develop innovative flexible solutions for all single family, commercial, and multi-family buildings. With a philosophy based on strength and functionality without compromise on aesthetics, we are successful because of our devoted employees.

1. GENERAL
	1. SECTION INCLUDES
		1. Hurricane impact-resistant storefront, structural silicone glazed. (PGT SS 3500)
		2. Hurricane impact-resistant medium-stile storefront entrance doors with transoms, structural silicone glazed. (PGT SE 3550)
	2. RELATED SECTIONS

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

* + 1. Section 07920 - Sealants: Sealant product and installation requirements.
		2. Section 08810 – Glass and Glazing: Glass and glazing requirements.
		3. Division 16 - Electronic Safety and Security.
	1. REFERENCES

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

* + 1. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
		2. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
		3. AAMA 803.3 - Specification for Narrow Joint Seam Sealer for Use with Architectural Aluminum.
		4. ANSI Z97.1 - Safety Performance Specifications and Methods of Test for Safety Glazing Material Used In Buildings.
		5. ASTM International (ASTM):
			1. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
			2. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
			3. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
			4. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
			5. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
			6. ASTM E 547 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
		6. Consumer Product Safety Commission (CPSC):
			1. CPSC 16CFR-1201 - Safety Standard for Architectural Glazing Materials.
		7. Glazing Association of North America (GANA):
			1. Glazing Manual.
			2. Laminated Glazing Reference Manual.
		8. Metro-Dade County, FL Building Code Compliance Office Protocol:
			1. TAS 201 - Impact Test Procedures.
			2. TAS 202 - Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.
			3. TAS 203 - Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.
	1. SYSTEM DESCRIPTION
		1. Entrance and Storefront System Performance Requirements:
			1. Air Infiltration: When tested in accordance with ASTM E 283-91 at differential static pressure of 6.24 PSF (299 Pa), completed storefront systems shall have maximum allowable infiltration of 0.3 CFM/FT2.
			2. Water Infiltration: No uncontrolled water other than condensation on indoor face of any component tested in accordance with ASTM E 331 and ASTM E 547 at a test pressure differential of 13.5 psf (0.65 kPa) for storefront and 12 psf (0.57 kPa) for entrances.
			3. Wind Loads: Completed storefront system shall withstand wind pressure loads normal to wall plane indicated:

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

* + - * 1. Exterior Walls with Steel Reinforcing:

Positive Pressure: 90 psf (4.3 kPa).

Negative Pressure: 120 psf (5.8 kPa).

* + - * 1. Exterior Walls with Aluminum Reinforcing:

Positive Pressure: 90 psf (4.3 kPa).

Negative Pressure: 120 psf (4.8 kPa).

* + - * 1. Exterior Walls without Reinforcing:

Positive Pressure: 80 psf (3.8 kPa).

Negative Pressure: 80 psf (3.8 kPa).

* + - 1. Deflection: Deflection of mullion and transom members: No deflection greater than 1/180 span at + and – certified design load applied to tributary area following FBC TAS 202.
			2. Accessibility: Comply with pertinent requirements of Americans with Disabilities Act (ADA).
			3. Hurricane Resistance: Large Missile/Small Missile, tested in accordance with FBC TAS201, TAS202, TAS203 for storefront, and for a door panel size of 36 inches by 95.5 inches (914 mm by 2426 mm)..
	1. SUBMITTALS
		1. Submit under provisions of Section 01300.
		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: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories and finish colors.
		4. Quality Assurance/Control Submittals:
			1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics and physical properties.
			2. Installer Qualification Data: Submit installer qualification data.
		5. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product and color.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Manufacturer capable of providing structural calculations, applicable independent product test reports, installation instructions, a review of the application method, customer approval and periodic field service representation during construction.
		2. Installer Qualifications: Installer experienced to perform work of this section who has specialized in the installation of work similar to that required for this Project and who is acceptable to product manufacturer.
	3. DELIVERY, STORAGE, AND HANDLING
		1. Ordering: Comply with manufacturer’s ordering instructions and lead-time requirements to avoid construction delays.
		2. Packing, Shipping, Handling, and Unloading: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.
		3. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle entrance doors and components to avoid damage. Protect entrance doors against damage from elements, construction activities, and other hazards before, during and after entrance installation.
	4. 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.
	5. WARRANTY
		1. Project Warranty: Provide manufacturer’s standard limited warranty.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: PGT Industries; 1070 Technology Drive, North Venice FL 34275. ASD. Tel: (941) 480-1600. Fax: (941) 486-8369. Email: \_\_\_\_\_. Web: http://www.pgtindistries.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 01600.
	1. STOREFRONT FRAMING
		1. Impact Resistant Storefront Framing System: PGT Industries SS 3500.
			1. Construction: 1-3/4 inches by 5 inches (44.5 mm by 127 mm), with 0.125 inch (3 mm) wall thickness; non-thermal; interior structural silicone glazed; screw spline fabrication.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs.

* + - 1. Glazing: 9/16 inch (14 mm) laminated glass.
			2. Glazing: 1-3/16 inch (30 mm) laminated insulating glass.
	1. STOREFRONT ENTRANCES
		1. Impact Resistant Entrances: PGT Industries SE 3550.
			1. Construction: 4-5/8 (117 mm) door stile, 4-7/8 inches (124 mm) top rail, 7 inches (178 mm) bottom rail, 1-3/4 inches (44.5 mm) thick, 0.125 inch (3 mm) wall thickness.
			2. Corner Construction: Combination screw spline/shear block construction.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs.

* + - 1. Glazing: 9/16 inch (14 mm) laminated glass.
			2. Glazing: 1-3/16 inch (30 mm) laminated insulating glass.
			3. Glazing: Manufacturer’s standard square glass stops, using the “Wet/Dry” glazing method, which includes a combination of Tremco EPDM spacer and wedge gaskets along with Dow Corning 995, Dow Corning 791, GE 7700 Structural silicone seal.
		1. Hardware:
			1. Hinges: Stainless steel mortise butt hinges.

\*\* NOTE TO SPECIFIER \*\* Optional locking hardware. Delete hardware not required.

* + - 1. Locking Hardware: Regent Ultra Secure Hookbolt locks top and bottom half-inch stainless steel “Secure Shoot Bolts” on all single doors and active leaf of pair. Inactive leaf houses thumbturn operated 2-point lock.
			2. Locking Hardware: Regent or VonDuprin Panic on all single doors and active leaf of pair. Inactive leaf houses thumbturn operated 2-point lock.
			3. Locking Hardware: Keyed cylinder exterior with oversized thumbturn interior.
			4. Locking Hardware: 1 inch (25 mm) round classic push bar and pull handle.

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

* + - 1. Threshold: Saddle Threshold.
			2. Threshold: 1/2 inch (13 mm) ADA threshold.
			3. Threshold: 7.5 psf medium threshold.
			4. Threshold: 12 psf high threshold.

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

* + - 1. Closers: Surface mounted closers.

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

* + - 1. Closers: Overhead concealed closers.
	1. MATERIALS
		1. Extrusions: Aluminum alloy and temper; 6063-T6, ASTM B 221.
	2. ACCESSORIES
		1. Manufacturer’s Standard Accessories:
			1. Fasteners: Zinc plated steel concealed fasteners; Stainless Steel or Hardened aluminum alloys exposed fasteners, countersunk, finish to match aluminum color.
			2. Perimeter Sealant: Non-skinning type, AAMA 803.3.
			3. Glazing: Setting blocks, edge blocks, and spacers in accordance with ASTM C 864, shore durometer hardness as recommended by manufacturer. Glazing gaskets in accordance with ASTM C 864.
			4. Glazing Adhesive: Dow Corning 995,Dow Corning 791, GE7700 Structural Silicone Sealant.
	3. FABRICATION
		1. Shop Assembly: Fabricate and assemble units with joints only at intersection of aluminum members with uniform hairline joints; rigidly secure, and sealed in accordance with manufacturer’s recommendations.
			1. Hardware: Drill and cut to template for hardware. Reinforce frames and door stiles to receive hardware in accordance with manufacturer’s recommendations.
			2. Reinforcing: Prepare components for steel reinforcing when necessary.
		2. Shop Glaze: Prepare and glaze units using tapes, gaskets and silicones specified with manufacturer’s recommendations.
	4. FINISHES

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

* + 1. Clear Anodized Finish: Clear anodic finish over uniformly cleaned and lightly etched aluminum surface.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. First paragraph is manufacturer’s standard finish.

* + - 1. AA-M12C22A41 – AAMA 611 – Architectural Class II.
			2. AA-M12C22A31 – AAMA 611 – Architectural Class I.

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

* + 1. High Performance Organic Coating Finish: Manufacturer’s standard high-performance finish. AAMA 2603.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. First paragraph is manufacturer’s standard finish.

* + - 1. 2-Coat.
			2. 3-Coat.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer’s instructions. Verify openings are sized to receive storefront system and sill plate is level in accordance with manufacturer’s acceptable tolerances.
			1. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.
		3. 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. General: Install storefront system in accordance with manufacturer’s instruction and AAMA storefront and entrance guide specifications manual.
			1. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
			2. Provide alignment attachments and shims to permanently fasten system to building structure.
			3. Align assembly plumb and level, free of warp and twist. Maintain assembly dimensional tolerances aligning with adjacent work.
			4. Set thresholds in bed of mastic and secure.
			5. Adjusting: Adjust operating hardware for smooth operation.
		2. Related Products Installation Requirements:
			1. Sealants (Perimeter): Refer to Joint Treatment (Sealants) Section.
			2. Glass: Refer to Glass and Glazing Section.
				1. Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual.
	4. CLEANING AND PROTECTION
		1. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer’s instructions prior to owner’s acceptance. Remove construction debris from project site and legally dispose of debris.
		2. Protection: Protect installed product’s finish surfaces from damage during construction. Protect aluminum storefront from damage from grinding and polishing compounds, plaster, lime, acid, cement or other harmful contaminants.

 END OF SECTION