

SECTION 084333 – FOLDING GLASS STOREFRONTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes furnishing and installing a floor track supported, sliding-folding, thermally broken, aluminum-framed glass panel system that includes:
 - 1. Aluminum frame
 - 2. Threshold
 - 3. Panels
 - 4. Sliding-folding and locking hardware
 - 5. Weather stripping
 - 6. Glass and glazing
 - 7. Insect screen (optional)
 - 8. Accessories as required for a complete working installation.
- B. Related Documents and Sections: Contractor to examine Contract Documents for requirements that directly affect or are affected by Work of this Section. A list of those Documents and Sections include, but is not limited to, the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, Specification Sections, apply to this Section.
 - 2. Section 06 1053, Miscellaneous Rough Carpentry
 - 3. Section 07 2726, Fluid Applied Membrane Air Barrier, Vapor Permeable
 - 4. Section 07 6200, Sheet Metal Flashing and Trim
 - 5. Section 07 9200, Joint Sealants

1.02 REFERENCES

- A. Reference Standards in accordance with Division 01 and current editions from the following:
 - 1. AAMA. American Architectural Manufacturers Association; www.aamanet.org
 - a. AAMA 502, Voluntary Specification for Field Testing of Newly Installed Fenestration Products
 - b. AAMA 520, Voluntary Specification for Rating the Severe Wind-Driven Rain Resistance of Windows, Doors and Unit Skylights
 - c. AAMA 611, Voluntary Specification for Anodized Architectural Aluminum
 - d. AAMA 920, Operation / Cycling Performance
 - e. AAMA 1304, Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems
 - f. AAMA 2604, Voluntary Specifications, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and

Panels

- g. AAMA 2605, Voluntary Specifications, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
 - h. AAMA/WDMA/CSA 101/I.S.2/A440, NAFS, North American Fenestration Standard - Specification for Windows, Doors and Skylights
2. ANSI. American National Standards Institute; www.ansi.org
- a. ANSI Z97.1, Safety Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings
3. ASTM. ASTM International; www.astm.org
- a. ASTM C1036, Standard Specification for Flat Glass
 - b. ASTM C1048, Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass
 - c. ASTM E283, Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - d. ASTM E330, Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - e. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
 - f. ASTM E413, Classification for Rating Sound Insulation
 - g. ASTM E547, Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
 - h. ASTM E1332, Standard Classification for Rating Outdoor-Indoor Sound Attenuation
 - i. ASTM E2268, Standard Test Method for Water Penetration of Exterior Windows, Skylights, and Doors by Rapid Pulsed Air Pressure Difference
 - j. ASTM F842, Standard Test Methods for Measuring the Forced Entry Resistance of Sliding Door Assemblies
4. CPSC. Consumer Product Safety Commission; www.cpsc.gov
- a. CPSC 16CFR-1201, Safety Standard for Architectural Glazing Materials
5. CSA Group (Canadian Standards Association); www.csagroup.org/global/en/home
- a. CSA A440S1 - The Canadian supplement to North American (NAFS) standards
6. DIN. "Deutsches Institut für Normung" (German institute for standardization); www.en-standard.eu/din-standards
- a. DIN 52210-3, Testing of acoustics in buildings - Airborne and impact sound insulation - Laboratory measurements of sound insulation of building elements and field measurements between rooms
 - b. DIN 52210-4, Tests in Building Acoustics - Airborne and Impact Sound
 - c. DIN EN 1191, Windows and doors - Resistance to repeated opening and closing - Test method; German version EN 1191:2000
 - d. DIN EN ISO 12400, Windows and pedestrian doors - Mechanical durability - Requirements and classification
7. Energy Star, U.S. Environmental Protection Agency (EPA) Program;

www.energystar.gov

8. FL. Florida Building Commission - Product Approval;
https://floridabuilding.org/pr/pr_app_srch.aspx
9. NFRC. National Fenestration Rating Council; www.nfrc.org
 - a. NFRC 100, Procedure for Determining Fenestration Product U-factors
 - b. NFRC 200, Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence
 - c. NFRC 400, Procedure for Determining Fenestration Product Air Leakage
 - d. NFRC 500, Procedure for Determining Fenestration Product Condensation Resistance Rating Values

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate Folding Glass Storefront system and framing R.O.
- B. Pre-installation Meetings: See Section 01 30 00.

1.04 SUBMITTALS

- A. For Contractor submittal procedures see Section 01 30 00.
- B. Product Data: Submit manufacturer's printed product literature for each Folding Glass Storefront system to be incorporated into the Work. Show performance test results and details of construction relative to materials, dimensions of individual components, profiles and colors.
- C. Product Drawings: Indicate Folding Glass Storefront system component sizes, dimensions and framing R.O., configuration, swing panels, direction of swing, stacking layout, typical head jamb, side jambs and sill details, type of glazing material, handle height and field measurements.
- D. Installation, Operation and Maintenance Data: Submit Owner's Manual from manufacturer. Identify with project name, location and completion date, and type and size of unit installed.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer capable of providing complete, precision built, engineered, pre-fitted units with a minimum twenty-five (25) years' experience in the sale of folding-sliding door systems for large openings in the North American market.
- B. Installer Qualifications: Installer experienced in the installation of manufacturer's products or other similar products for large openings. Installer to provide reference list of at least three (3) projects of similar scale and complexity successfully completed in the last three (3) years.
 1. Installer to be trained and certified by manufacturer.
- C. Single Source Responsibility: Furnish Folding Glass Storefront system materials from one manufacturer for entire Project.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's instructions and recommendations, Section 01 60 00 requirements, and as follows:
 1. Deliver materials to job site in sealed, unopened cartons or crates.
 - a. Upon receipt, inspect the shipment to ensure it is complete, in good condition and meets project requirements.

2. Store material under cover in a clean and dry location, protecting units against weather and defacement or damage from construction activities, especially to the edges of panels.

1.07 FIELD CONDITIONS

- A. Field Measurements: Contractor to field verify dimensions of rough openings (R.O.) [And threshold depressions to receive sill.] Mark field measurements on product drawing submittal.

1.08 WARRANTY

- A. Manufacturer Warranty: Provide Folding Glass Storefront system manufacturer's standard limited warranty as per manufacturer's published warranty document in force at time of purchase, subject to change, against defects in materials and workmanship.
 1. Warranty Period beginning with the earliest of 120 days from Date of Delivery or Date of Substantial Completion:
 - a. Rollers and Glass Seal Failure: Ten (10) years
 - b. All Other Components Except Screens: Ten (10) years
 - 1). Exception: Five (5) years if NOT installed by manufacturer's certified trained installer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis-of-Design Product by Manufacturer: NanaWall NW Acoustical 645 by NANA WALL SYSTEMS, INC. (www.nanawall.com)
- B. Design Criteria:
 1. As indicated by the Drawings.
- C. Approved equal prior to bid.

2.02 FABRICATION

- A. Folding Glass Wall: Extruded aluminum frame and panel profiles, corner connectors and hinges, sliding and folding hardware, locking hardware and handles, glass and glazing and weather stripping.
 1. Each unit factory pre-assembled and shipped with complete system components and installation instructions.
 2. Exposed work to be carefully matched to produce continuity of line and design with all joints.
 3. No raw edges visible at joints.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examination and Acceptance of Conditions per Section 01 70 00 and as follows:
 1. Carefully examine rough openings with Installer present, for compliance with requirements affecting Work performance.
 - a. Examine surfaces of openings and verify dimensions; verify rough openings are

level, plumb, and square with no unevenness, bowing, or bumps on the floor; and other conditions as required by the manufacturer for readiness to receive Work.

- b. Verify structural integrity of the header for deflection with live and dead loads limited to the lesser of L/720 of the span or 1/4 inch (6 mm). Provide structural support for lateral loads, and both wind load and eccentric load when the panels are stacked open.

2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. General: Install Folding Glass Storefront system in accordance with the Drawings, approved submittals, manufacturer's recommendations and installation instructions, and as follows:

1. Properly flash, waterproof and seal around opening perimeter.
2. Securely attach anchorage devices to rigidly fit frame in place, level, straight, plumb and square. Install frame in proper elevation, plane and location, and in proper alignment with other work.
3. When lower track is designed to drain, provide connections to allow for drainage.
4. Install panels, handles, lockset, screens and other accessories in accordance with manufacturer's recommendations and instructions.

3.03 FIELD QUALITY CONTROL

- A. Field Tests and Inspections per Section 01 40 00 of the following:
 1. Verify the Folding Glass Storefront system operates and functions properly. Adjust hardware for proper operation.
- B. Non-Conforming Work: Repair or replace non-conforming work as directed by the Architect; see General and Supplementary Conditions, and Division 01, General Requirements.

3.04 CLEANING AND PROTECTION

- A. Keep units closed and protect Folding Glass Storefront installation against damage from construction activities.
- B. Remove protective coatings and use manufacturer recommended methods to clean exposed surfaces.

END OF SECTION 083323