

SECTION 10 22 40

ALUMINUM CLAD WOOD FRAMED FOLDING GLASS STOREFRONT

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes furnishing and installing a sliding-folding aluminum-clad wood framed glass panel system that includes:
1. Aluminum-clad wood frame
 2. Threshold
 3. Panels
 4. Sliding-folding and locking hardware
 5. Spines
 6. [**Sound gasketing**]
 7. Glass and glazing
 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 10 00, Rough Carpentry: Wood framing R.O. and blocking.
 3. Section 07 90 00, Joint Protection
 4. Section 08 42 23, Glass Entrance Swing Doors
 5. Section 08 43 11, Folding Glass Storefronts: NanaWall WA67
 6. Section 08 43 12, Aluminum-Clad Wood Framed Sliding Glass Storefronts: NanaWall LS177
 7. Section 08 51 13, Aluminum Windows: NanaWall WA68, tilt-turn, casement window.
 8. Section 09 22 16, Non-Structural Metal Framing: Metal framing R.O. and reinforcement.
 9. Section 10 22 46, Aluminum-Clad Wood Framed Sliding Glass Storefronts: NanaWall LS177

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 503, Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls, and Sloped Glazing Systems
 - b. AAMA 611, Voluntary Specification for Anodized Architectural Aluminum
 - c. AAMA 1304, Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems
 - d. AAMA 2604, Voluntary Specifications, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels
 - e. 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 E413, Classification for Rating Sound Insulation
 - d. ASTM E1332, Standard Classification for Rating Outdoor-Indoor Sound Attenuation
4. Construction Products Directive (CPD), a legal mandate of the European Commission; http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/construction-products/index_en.htm
 - a. CE Mark; http://ec.europa.eu/growth/single-market/ce-marking/index_en.htm
5. CPSC. Consumer Product Safety Commission; www.cpsc.gov
 - a. CPSC 16CFR-1201, Safety Standard for Architectural Glazing Materials
6. CSA Group (Canadian Standards Association); www.csagroup.org/global/en/home
 - a. CSA A440S1 - The Canadian supplement to North American (NAFS) standards
7. DIN. "Deutsches Institut für Normung" (German institute for standardization); www.en-standard.eu/din-standards
 - a. DIN EN 1191, Windows and doors - Resistance to repeated opening and closing - Test method; German version EN 1191:2000
 - b. DIN EN ISO 12400, Windows and pedestrian doors - Mechanical durability - Requirements and classification
8. Florida Building Commission - Product Approval; https://floridabuilding.org/pr/pr_app_srch.aspx

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate Folding Glass Partition system and framing R.O.
- B. Preinstallation 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 Partition 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. Shop Drawings: Indicate Folding Glass Partition 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. Certificates: Submit CE Mark certificate.
- E. Manufacturers' Instructions: Submit manufacturer's installation instructions.
- F. 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.

NOTE: Delete the following Article if LEED is not applicable; edit to meet project LEED requirements.

- G. Sustainable Design Submittals (USGBC [LEED®](http://www.usgbc.org)): Refer to Section 01 81 15, LEED Design Requirements.
 1. **LEED 2009** (v3) Credits. Complete online LEED forms and submit other required materials as follows:
 - a. Materials and Resources (MR) Credits:
 - 1). MR Credit 1.1 (MRc1.1): Building Reuse - Maintain Existing Exterior Walls, Floors and Roof

- 2). MR Credit 1.2 (MRc1.2): Building Reuse - Maintain Existing Interior Nonstructural Elements
- 3). MR Credit 2 (MRc2): Construction Waste Management

NOTE: MR Credit 3 below can apply to reusing salvaged Folding Glass Partition.

- 4). MR Credit 3: Materials Reuse - 5% (MRc3.1) or 10% (MRc3.2)
- 5). MR Credit 7 (MRc7): Certified Wood
- b. Indoor Environmental Quality (EQ) Credits:
 - 1). IEQ Credit 2 (IEQc2): Increased Ventilation - Case 2 - Naturally Ventilated Spaces
 - 2). IEQ Credit 8.1 (IEQc8.1): Daylight & Views - Daylight 75% of Spaces
 - 3). IEQ Credit 8.2 (IEQc8.2): Daylight & Views - Views for 90% of Spaces
 - 4). IEQ Credit 9 (LEED for Schools - IEQc9): Enhanced Acoustical Performance
2. **LEED v4 for Interior Design and Construction (ID&C)** Credits. Complete online LEED forms and submit other required materials as follows:
 - a. Energy and Atmosphere (EA) Credits:
 - 1). EA Credit 2 (EAc2): Optimize Energy Performance
 - b. Materials and Resources (MR) Credits:

NOTE: MR Credit 1 below can apply to reusing salvaged Folding Glass Partition.

- 1). MR Credit 1 (MRc1): Building Life-Cycle Impact Reduction; Option 3 - Building and Material Reuse
- c. Indoor Environmental Quality (EQ) Credits:
 - 1). EQ Credit 7 (EQc7): Daylight
 - 2). EQ Credit 8 (EQc8): Quality Views
 - 3). EQ Credit 9 (EQc9): Acoustic Performance

H. LEED Closeout Documentation:

NOTE: Edit below to meet project LEED requirements.

1. **LEED 2009** (v3). Submit completed LEED™ submittal Worksheet Templates for the following credits:
 - a. MRc1.1, MRc1.2, MRc2, MRc3, MRc7, IEQc2, IEQc8.1, IEQc8.2, IEQc9
2. **LEED v4 (ID&C)**. Submit information and documentation to complete LEED™ Worksheet Templates for the following credits:
 - a. EAc2, MRc1, EQc7, EQc8, EQc9

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.
 1. Manufacturer to have ISO 9001: 2008 quality management system registration.
 2. Manufacturer to have ISO 14001: 2005 environmental management system registration.
- 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 Partition 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. Condition wood components to average prevailing relative humidity before installation. Do not subject wood components to extreme nor rapid changes in heat or humidity.
 - 3. Do not use forced heat to dry out building.
 - 4. Store flat in a well ventilated area out of direct sunlight 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 shop drawing submittal.

1.08 WARRANTY

- A. Manufacturer Warranty: Provide Folding Glass Partition 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 WA67** by **NANA WALL SYSTEMS, INC.** (www.nanawall.com)

NANA WALL SYSTEMS, INC.
 100 Meadow Creek Drive, Corte Madera, CA 94925
 Toll Free (800) 873-5673
 Telephone: (415) 383-3148
 Fax: (415) 383-0312
 Email: info@nanawall.com

- 1. Substitution Procedures: See Section 01 20 00; Submit completed and signed:
 - a. Document 00 43 25, Substitution Request Form (During Procurement), or
 - b. Document 00 63 25, Substitution Request Form (During Construction)

2.02 PERFORMANCE / DESIGN CRITERIA

NOTE: Select one of the six Performance Criteria Sill type paragraphs below for Sill types and Inward or Outward Openings.
 Forced entry testing results are only applicable for the test unit type of locking.
 Check for requirements in the jurisdiction of the project.
 See manufacturer's latest published data regarding performance.

It is expected that the installed system's performance would be not more than 2/3rds of the following certified laboratory test data in accordance with AAMA 503.

- | | | |
|----|------------------------------------|--|
| A. | Performance Criteria (Lab Tested): | Standard Flush Sill - Inward Opening |
| B. | Performance Criteria (Lab Tested): | Standard Flush Sill - Outward Opening |
| C. | Performance Criteria (Lab Tested): | Top Supported Low Profile Saddle Sill - Inward Opening |
| D. | Performance Criteria (Lab Tested): | Top Supported Low Profile Saddle Sill - Outward Opening |
| E. | Performance Criteria (Lab Tested): | Raised Sill - Inward Opening |
| F. | Performance Criteria (Lab Tested): | Raised Sill - Outward Opening |

NOTE: Items below are common to all sill types.

1. System - Life Cycle Performance (DIN EN 1191/12400): 20,000 cycles
2. Forced Entry (AAMA 1304): Meets 300 lb. (1330 N) point load requirement.
3. Folding Glass Partition Units tested to AAMA/WDMA/CSA 101/I.S.2/A440
4. Florida Product Approval - Wind Loading (Units with panel sizes up to 3'-7" inch (1.10 m) wide x 10'-0" inch (3.05 m) high), subject to manufacturer size charts: FL 18309.1

NOTE: FL 18309 web-link is:
https://floridabuilding.org/pr/pr_app_dtl.aspx?param=wGEVXQwtDquvosrHazGXQdunsYKQY%2fRouJ7UALsbPeSsQ1At0I8FnA%3d%3d

G. LEED Characteristics:

1. **LEED 2009** (v3)

- a. MRc1.1: *NanaWall* exterior glass wall systems not demolished and are reused in the same location in a renovation project.
- b. MRc1.2: *NanaWall* interior glass wall systems not demolished and are reused in the same location in a renovation project.
- c. MRc2: *NanaWall* cardboard shipping crates are made of 60% recycled material and are 100% recyclable.
- d. MRc3: *NanaWall's* components easily disassemble and reassemble to "*Use as salvaged... or reused materials.*"
- e. MRc7: *NanaWall* system wood doors and doorframes can be FSC-certified.
- f. IEQc2: *NanaWall* systems provide natural ventilation in the open position, assisting in the 90% required natural ventilation of occupied spaces of ASHRAE 62.1.
- g. EQc8.1: *NanaWall* glass wall assembly borrowed light brings daylight deeper into the floor plate.
- h. EQc8.2: *NanaWall* glass wall assemblies provide direct outdoor lines of sight.
- i. IEQc9: (LEED for Schools) For gasketed *NanaWall* glass wall assemblies with glass units STC testing of up to a 43 dB reduction.

2. **LEED v4 for Interior Design and Construction (ID&C)**

- a. EAc2: *NanaWall* systems using low U-Value designed double or triple IGU and thermally/ acoustically broken frames can provide significant energy performance.
- b. MRc1: *NanaWall* can be easily disassembled for salvage and reuse.
- c. EQc7: *NanaWall* glass wall assembly borrowed light brings daylight deeper into the floor plate.
- d. EQc8: *NanaWall* glass wall assemblies provide direct outdoor lines of sight.
- e. EQc9: *NanaWall* glass wall assemblies can contribute with system acoustic ratings of up to a 43 dB reduction.

H. Design Criteria:

1. Sizes and Configurations: As indicated by the Drawings for selected number and size of panels, location of swing panels, and location of tracks and stacking bays.
2. Unit Operation: Adjustable sliding and folding hardware with top and bottom tracks;
 - a. [**inswing type.**]
 - b. [**outswing type.**]
3. Panel Configuration:
 - a. [**Straight**]
 - b. [**90° angle turn/ open corner**]
 - c. [**Window/ door combination**]
4. Stack Storage Configuration:
 - a. [**Inside jamb**]
 - b. [**Outside jamb**]
5. Mounting Type:
 - a. [**Top hung**]
 - b. [**Floor track supported**]
6. Paired Panel Type: Hinged
 - a. Primary swing panel of paired swing panels, looking from inside, to be on the [**left**] [**right**].
 - b. [**Entry/Egress panel hinged to side jamb.**]
7. Panel Pairing Configuration: See drawings.

NOTE: Sizes and Configurations: <http://www.nanawall.com/products/wa67/options>
 See manufacturer drawings for selected custom dimensions within maximum frame sizes possible as indicated in manufacturer's literature.
 See drawings for selected number of panels and configuration.

2.03 MATERIALS

- A. Aluminum-Clad Wood Framed Folding Glass Partition Description: 2-5/8 inch (66 mm) thick narrow stile for double glazed and 3-13/16 inch (97 mm) thick for triple glazed frame profiles, top hung or floor track supported system designed for straight runs and open corners. Manufacturer's standard exterior aluminum clad solid triple laminated wood frame and panel profiles, with head and floor track, side jambs and panels with dimensions as shown on Drawings.

1. Panels:
 - a. Single lite.

NOTE: Single lite above is standard; other options below may require an upcharge.

- b. [**Horizontal mullion(s) at height(s) indicated from the bottom of the panel.**]
 - c. [**Simulated divided lites in pattern as indicated.**]
2. Panel Size (W x H): As indicated.

NOTE: Maximum panel width for the 2-5/8 inch (66 mm) profile is 3'-3" (1.0 m) with a minimum width of 2'-3" (0.70 m). Maximum panel height is 9'-10" (3.0 m) with a minimum width of 2'-3" (0.70 m). Refer to NanaWall size chart.
 E.g. 3'-3" x 7'-8" (1.0 x 2.35 m) or 2'-3" x 9'-10" (0.7 x 3.0 m).
 Maximum panel width for the 3-13/16 inch (97 mm) profile is 3'-3" (1.0 m) with a minimum width of 2'-9 1/2" (0.85 m). Maximum panel height is 9'-2" (2.8 m) with a minimum width of 2'-9 1/2" (0.85 m).
 Glass panels higher than 8'-4" (2.55 m) need to be stiffened with a horizontal mullion.

3. Rail Depth:
 - a. [**2-5/8 inch (66 mm)**]
 - b. [**3-1/16 (78 mm)**]
4. Head and Jamb Rail Width: 3-1/16 (78 mm)
5. Bottom Rail Width:
 - a. 3-1/16 inch (78 mm)
 - b. [**Manufacturer's standard kickplate with height indicated.**]

NOTE: When selecting kickplate option for the bottom rail, select and indicate a height of between 8 and 12 inches (20 and 30 cm); this option may require an upcharge.

6. Wood: Cross-grained, triple laminated solid wood with mortise and tenon, and glued and pinned corners. Veneered wood not acceptable.

NOTE: PEFC certified wood (Douglas fir) does NOT qualify for LEED credit but does meet US Lacey Act requirements.

Selected LEED credit qualified FSC Certified wood available upon request.

- a. Species:
 - 1). [**PEFC certified Douglas fir**]
 - 2). [**European Pine**]
 - 3). [**Meranti**]
 - 4). [**Western Hemlock**]
 - 5). [**Spruce**]
 - 6). [**European Oak**]
 - 7). [**Sapelli Mahogany**]

NOTE: Beech, Maple or Cherry are for interior applications only.

- 8). [**Beach**]
- 9). [**Maple**]
- 10). [**Cherry**]
- b. Wood Finish: Provide factory water-based, open pore [**clear sanding sealer for stain**] [**base coat applied for paint**] with one additional clear coat; See Section 09 90 00 for field finish.

NOTE: Before installation, field finish wood with a minimum two coats for final protective finish.

7. Aluminum Extrusion: Attached to interior wood with thermal isolating polyamide connectors using the back-ventilated rainscreen principle.
 - a. Alloy: AlMgSi0.5; 6063-T5 (F-22 - European standard)
 - b. Thickness: 0.078 inch (2.0 mm) nominal
 - c. Acoustic Break: 7/8 inch (22 mm) wide polyamide plastic reinforced with glass fibers.
8. Aluminum Finish (including head track covers):

NOTE: Select finish type below, edit to requirements and delete items not used.

- a. Anodized (AAMA 611):
 - 1). [**Clear**]
 - 2). [**Dark Bronze**]
- b. Powder Coat (AAMA 2604):
 - 1). Color as chosen from manufacturer's powder coating finish chart from

- a). [**manufacturer's standard selection of 50 colors - matte.**]
- b). [**manufacturer's full RAL selection.**]
 - i. [**High Gloss**]
 - ii. [**Matte**]
- c). [**custom finish.**]

B. Glass and Glazing:

- 1. Safety Glazing: In compliance with ANSI Z97.1 and CPSC 16CFR 1201.

NOTE: For storefront units requiring acoustic performance keep the following paragraph. Edit to suit project conditions.

- a. Glass Acoustical Performance (ASTM E413 and ASTM E1332): STC

NOTE: Acoustical ratings listed below are for the **glass only** and not the full panel system but will most likely be within 2 dB of the glass STC rating when the frame is added.

- 1). [**32; 1 inch (26 mm) double IGU, air filled, tempered glass**]
- 2). [**39; 1 inch (26 mm) double IGU, air filled, laminated and tempered glass**]

NOTE: Unlike wet glazing, NanaWall's standard dry glazing method helps reduce instances of seal failure.

- 2. Manufacturer's [**tempered**] [**and**] [**laminated**] glass lites in [**double**] [**triple**] insulated glazing units, dry glazed with glass stops on the inside.

NOTE: Select and edit glass type(s) to meet building code, acoustic, bullet resistant and/or security, and other project requirements with other glass available from manufacturer.

Anti-fall glazing available where required.

Custom layouts with horizontal mullions, simulated divided lites, inserts, and high bottom rails are possible.

Contact NanaWall for availability of other commercial glass types.

- a. Insulated Glass Unit (IGU) Lites:
 - 1). [**Double IGU:** **1 inch (26 mm) thick.**]
 - 2). [**Triple IGU:**
 - a). **1-1/8 inch (28 mm) thick.**]
 - b). **1-1/2 inch (38 mm) thick.**]
- b. IGU Fill: Air filled
- c. Glass Lite Type: **< insert glass type >**
 - 1). Standard

NOTE: Items below are options and may require an upcharge.

- 2). [**Low iron**]
- 3). [**Solar bronze**]
- 4). [**Solar gray**]
- d. Glass Spacers: Manufacturer's standard [**gray**] [**dark bronze**] finish; [**without**] [**with**] capillary tubes.

C. Locking Hardware and Handles:

NOTE: Select one of the below

Panel paragraphs WITH or WITHOUT Swing Panels, deleting all others. Edit to suit project requirements.

- 1. Main Entry Panel(s) for Models WITH a [**Pair of**] Swing Panel(s): Provide manufacturer's

standard lever handles on the inside and outside and a lockset with a lockable latch, and multi-point locking with a dead bolt and rods at the top and bottom on primary panel only.

- a. Rods to be concealed and not edge mounted.
- b. After turn of key or thumbturn, depression of handles withdraws latch.
- c. Lifting of handles engages rods and turn of key or thumb turn engages deadbolt and operates lock.
- d. [**Secondary Swing Panel: Provide matching dummy lever handles on both sides and concealed flush bolts that operate the rods at the top and the bottom for the secondary swing panel.]**

NOTE: Secondary swing panel paragraph above is standard with pairs; hardware for Secondary Panel below is an option.

- e. [**Secondary Swing Panel: Provide two-point locking with flat handles on inside only for the secondary swing panel.]**
- f. Lever Handle - Finish:
 - 1). Brushed satin stainless steel

NOTE: Handle above is standard; optional handle types below may require an upcharge. ADA handle only available in "Brushed satin stainless steel"

- 2). [**Titanium black stainless steel]**
- 3). [**Oil rubbed bronze solid brass]**
- 4). [**Satin nickel solid brass]**
- 5). [**White solid brass]**
- g. Locking:
 - 1). Standard profile cylinder
 - 2). Adapter for Small Format Interchangeable Core (SFIC)
2. Main Entry Panel For Models WITH a [**Pair of**] Swing Panel(s): Provide lever handles on the inside and outside with single action, emergency egress, interconnected lock.
3. Main Entry Panel(s) for Models WITH Swing Panel: Provide manufacturer's push-pull handles with separate lockset and dead bolt.
 - a. Push-pull handles in a brushed stainless steel finish and stainless steel flat handles in a [**brushed satin finish.] [titanium black finish.]**

NOTE: Option above is recommended with a door closer but, in order to slide the swing panel, it needs to be attached to a side jamb or disengaged.

4. Main Entry Panel for Models WITH a Swing Panel: No hardware or locking provided by manufacturer; Field installed panic device [**s on both panels**] by Section 08 71 00.
5. Main Entry Pair of Panels on Inswing Models WITHOUT a Swing Panel: Provide manufacturer's standard L-shaped handle on the inside, flat handle on the outside and lock set with profile cylinder. Operation of lock set is by turn of key from the outside and with a thumbturn from the inside with two-point locking hardware operated by 180° turn of the handle.
 - a. L-Shaped Handles - Finish:
 - 1). Brushed satin stainless steel

NOTE: Handle above is standard; optional handle types below may require an upcharge.

- 2). [**Titanium black stainless steel]**
- 3). [**Brown nylon]**
- 4). [**Gray nylon]**

6. Main Entry Pair of Panels on Outswing Models WITHOUT a Swing Panel: Provide manufacturer's standard flat handle on the inside and outside and a lockset with profile cylinder. Operation of lock set is by turn of key from the outside and from inside with two-point locking hardware operated by 180° turn of the handle.

NOTE: Above keying operation from inside may not meet egress requirements.

7. Main Entry Panel: Provide manufacturer's standard flat handle on inside only with concealed two point locking hardware operated by 180° turn of handle.

NOTE: With option above, main entry panel is operable from inside only and there is no latch. Other compatible lever handle styles and finishes are available from other suppliers.

8. Secondary Panels and Pairs of Folding Panels: Provide manufacturer's [**standard flat**] [**removable custodial**] handles and concealed one or two-point locking hardware operated by 180° turn of handle between each pair.

NOTE: Flat handles above is standard with removable custodial handles an option.

- a. Face applied flush bolt locking not acceptable.
9. Flat Handle - Finish:
 - a. Brushed satin stainless steel

NOTE: Handle above is standard; optional handle types below may require an upcharge.

- b. [**Titanium black stainless steel**]
- c. [**Dark brown powder coated**]
- d. [**Silver gray powder coated**]
10. Handle Height: 41-3/8 inch (105 cm) centered from bottom of panel or as otherwise indicated.
11. Aluminum locking rods with fiberglass reinforced polyamide end caps at the top and bottom. Rods to have a stroke of 15/16 inch (24 mm).
12. Additional profile cylinders to be [**keyed alike.**] [**keyed differently.**]
- D. Sliding-Folding Hardware: Provide manufacturer's standard combination sliding and folding hardware with top and bottom tracks and threshold. All running carriages to be with sealed, self-lubricating, ball bearing multi-rollers. Surface mounted hinges and running carriages NOT acceptable.
 1. For Each Pair of Folding Panels:
 - a. Top Hung System (WA67/o): Provide independent cardanic suspension for four (4) wheeled rollers coated with fiberglass reinforced polyamide upper running carriage and lower guide carriage.
 - b. Floor Mounted System (WA67/u): Provide upper guide carriage and lower running carriage with four vertical stainless steel wheels and two horizontal wheels. Vertical wheels to ride on stainless steel guide track covers over the full length of sill track. Carrying capacity of lower running carriage to be a minimum 150 lbs. (70 kg).

NOTE: Select from the following Threshold Finish types, edit to suit and delete those not meeting project requirements.

3-13/16 inch (97 mm) profile only available with Raised Sill.

Floor mounted WA67/u system NOT available with the Alternate Flush Sill.

2. Sill Type: < **insert sill type** >
 - a. [**Standard flush sill**]
 - b. [**Alternate flush sill**]
 - c. [**Low profile saddle sill**]
 - d. [**Higher weather performance raised sill**]

- e. Finish: Aluminum with a [**clear**] [**dark bronze**] anodized finish.
- f. Cover plate over sill NOT acceptable.
- g. For ADA Compliance: Provide gasket to cover the channel in the sill at swing doors.
- 3. Panel Hinges and Spine: [**Clear**] [**Dark bronze**] anodized aluminum with hinges connected to spine and NOT directly into wood. Stainless steel security hinge pins with set-screws.
- 4. Adjustment: Provide hinge adjustments of 5/32 inch (4 mm) both in width and in height - up and down, without removing panels from tracks and without needing to remove panels from tracks.
- E. Sound Gasketing: Manufacturer's double layer EPDM between panels, EPDM gasket and Q-Ion gasket, or triple layer EPDM, or brush seal between panel and frame, or brush seals with a two-layer fiberglass reinforced polyamide fin attached at both inner and outer edge of bottom of door panels with a recessed sill or on frame for sealing between panels and between panel and frame.

NOTE: The manufacturer's sound gasketing is determined at the factory by the direction of swing, the panel configuration, the type of locking and the type of sill.

Double layer EPDM is standard with the 2-5/8 inch (66 mm) deep profile.

Triple layer EPDM is for use with 3-1/16 inch (78 mm) deep profiles.

2.04 FABRICATION

- A. Folding Glass Wall: Use solid, three layer, cross grained frame and panel profiles connected to exterior aluminum extrusions, hinges and spines, sliding and folding hardware, locking hardware and handles, threshold and track, glass and glazing and sound gasketing.
 - 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.
 - 4. Wood frame and panel components to be sealed with a clear sand sealer or primer plus one additional coat.

2.05 ACCESSORIES

- A. Provide sidelights, transoms, corner posts, or single or double doors as indicated.

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.

NOTE: Prior to installing NanaWall, it is recommended that all building dead loads be applied to the header. Allow a reasonable amount of time for the dead load's effect on the header; only then can the building's live load be used to meet the above requirements of L/720 or 1/4 inch (6 mm). If this is not done, both dead and live loads need to be considered.

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

3.02 INSTALLATION

- A. General: Install Folding Glass Partition system in accordance with the Drawings, approved

submittals, manufacturer's recommendations and installation instructions, and as follows:

1. Properly 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. Wood Finishing: Field finish wood under Section 09 90 00, Painting and Coating; seal and finish promptly after installation and prior to exposure to weather.
4. Install panels, handles, lockset, gasketing 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 Partition 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 Partition installation against damage from construction activities.
- B. Remove protective coatings and use manufacturer recommended methods to clean exposed surfaces.

END OF SECTION

DISCLAIMER:

Nana Wall Systems, Inc. takes no responsibility for product selection or application, including, but not limited to, compliance with building codes, safety codes, laws, or fitness for a particular purpose. This guide specification is not intended to be verbatim as a project specification without appropriate modifications for the specific use intended and the particular requirements of a specific construction project.

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