

SECTION 10 22 39
FOLDING GLASS PARTITIONS
SECTION 10 22 43
SLIDING GLASS PARTITIONS

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. Sound gasketing.
 - 6. Glass and glazing.
 - 7. 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 06 20 00, Finish Carpentry.
 - 4. Section 07 90 00, Joint Protection.
 - 5. Section 08 42 23, Glass Entrance Swing Doors.
 - 6. Section 08 43 33, Folding Glass Partitions: NanaWall SL70.
 - 7. Section 09 22 16, Non-Structural Metal Framing: Metal framing R.O. and reinforcement.

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 611, Voluntary Specification for Anodized Architectural Aluminum.
 - c. AAMA 920, Operation / Cycling Performance.
 - d. AAMA 1304, Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.

- e. AAMA 2604, Voluntary Specifications, Performance Requirements, and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
 - f. AAMA 2605, Voluntary Specifications, Performance Requirements, and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
 - g. 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 E90-09, Standard Test Method for Laboratory Measurements of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - d. ASTM E413, Classification for Rating Sound Insulation.
 - e. ASTM E1332, Standard Classification for Rating Outdoor-Indoor Sound Attenuation.
 - f. 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 EN 1191, Windows and doors – Resistance to repeated opening and closing – Test method; German version EN 1191: 2000.
 - b. DIN EN ISO 717-1, Acoustics – Rating of sound insulation in buildings and building elements.
 - c. DIN EN ISO 9001, 2015 quality management system registration.
 - d. DIN EN ISO 10140 - 1, 2, 4 & 5, Airborne sound measurement.
 - e. DIN EN ISO 12400, Window and pedestrian doors- Mechanical durability – Requirements and classification.
 - f. DIN EN ISO 14001, 2015 environmental management system registration.
 - g. 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.
 - h. DIN 52210-4, Tests in Building Acoustics - Airborne and Impact Sound.
7. FL. Florida Building Commission - Product Approval;
https://floridabuilding.org/pr/pr_app_srch.aspx
8. HPD. Health Product Declaration v2.3; <https://www.hpd-collaborative.org/>

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate Folding Glass Partition 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 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. Product Drawings: Indicate Folding Glass Partition system component sizes, dimensions and framing R.O., configuration, swing panels, direction of swing, 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.

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

- E. Sustainable Design Submittals (USGBC [LEED®](#)): 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).

NOTE: MR Credit 5 below can apply to projects within 500 miles (805 km) of the NanaWall fabrication shop located in Richmond, CA 94801.

- 5). MR Credit 5: Regional Materials: 10% (MRc5.1) or 20% (MRc5.2) Extracted, Processed & Manufactured Regionally.
 - a). Submit percentage of products made from plant materials with a less than 10-year harvest cycle against the total value of building materials on the project.
 - 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
 - a). Submit calculations or measurements for occupant spaces to meet sound transmission class ratings between adjacent spaces and reverberation time requirements within a room.

F. 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. EAc1, MRc1.1, MRc1.2, MRc2, MRc3, MRc5, MRc6, IEQc2, IEQc8.1, IEQc8.2, IEQc9
2. **LEED v4** (BD&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 thirty five plus (35) 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 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 the 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 specific system approved or certified trained installer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis-of-Design Product by Manufacturer: **NanaWall SL70** 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)
 - b. Document 00 63 25, Substitution Request Form (During Construction)

2.02 PERFORMANCE / DESIGN CRITERIA

- A. Performance Criteria (Lab Tested):

NOTE: Items below are common to all sill types, except as noted.

1. Operation / Cycling Performance - Swing Panel (AAMA 920): 500,000 cycles
2. Life Cycle Performance - System (DIN EN 1191/12400): 20,000 cycles
3. Folding Glass Partition Units tested to AAMA/WDMA/CSA 101/I.S.2/A440

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

- a. Glass Acoustical Performance (DIN 52210-3, 4): STC (Rw)
 - 1). [System STC (Rw) 43 (43) and OITC 35 with 1-1/2 inch (38 mm) double IGU, 10 mm and 8 mm STC 48 laminated glass.]
 - 2). [System STC (Rw) 41 (41) and OITC 33 with 1-7/16 inch (36 mm) double IGU, 8 mm laminated and 6 mm tempered STC 43 glass.]
 - 3). [System STC (Rw) 33 (33) and OITC 27 with 15/16 inch (24 mm) double IGU, 4 mm and 4 mm STC 32 tempered glass.]

NOTE: Acoustical system STC ratings below are engineer-calculated conversions of European tests per ASTM E413 and ASTM E1332 for the full panel system with the flush sill.

- 4). [System STC (Rw) 42 (42) with 1-5/16 inch (34 mm) double IGU, 6 mm and 6 mm STC 44 enhanced laminated glass]
- 5). [System STC (Rw) 38 (38) with 1/2 inch (12 mm) STC 39 enhanced laminated glass]
- 6). [System STC (Rw) 36 (36) with 1/4 inch (6 mm) STC 36 enhanced laminated glass]
- 7). [System STC (Rw) 35 (35) with 1/4 inch (6 mm) STC 35 laminated glass]
- 8). [System STC (Rw) 32 (32) with 1/4 inch (6 mm) STC 31 tempered glass]
4. Forced Entry (AAMA 1304 / ATSM F842): Meets requirements for +F1
5. Health Product Declaration (HPD): Meets requirements

NOTE: Health Product Declaration (HPD) in accordance with HPD Standard v2.3 tested with threshold level of hazards from substances present at or above 1000 parts per million (ppm). No residual or impurities were present above the threshold level from the system components.

No VOC emission as per LEED requirements. Contact NanaWall for more information.

B. LEED Characteristics:

1. **LEED 2009 (v3)**

- a. MRc1.1: *NanaWall* exterior glass wall systems, not demolished in a renovation project, are reused in the same location.
- b. MRc1.2: *NanaWall* interior glass wall systems, not demolished in a renovation project, are reused in the same location.
- 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. MRc5: *NanaWall* glazing, panel, track, and door manufacturing final assembly plant is located in Richmond, CA 94801.
- 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.

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.

C. 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 track and stacking.
- 2. Unit Operation: Sliding and folding hardware with top and bottom tracks.
- 3. Panel Configuration:
 - a. [Straight]
 - b. [Segmented curve]
 - c. [90° angle open corner]
 - d. [135° angle turn]
 - e. [Window door combination]
- 4. Stack Storage Configuration:
 - a. [Inswing]
 - b. [Outswing]
- 5. Mounting Type: Floor track supported
- 6. 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: <https://www.nanawall.com/resources/sl70/cad/standard>
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. Monumental Thermally Broken Aluminum Framed Folding Glass Storefront Description: Floor track supported system designed for angle changes, segmented curves. Manufacturer's standard or post reinforced frame and panel profiles, with top track, side jambs and panels with dimensions as shown on Drawings.

1. Panels and Frames:

a. Panels:

- 1). Single lite.

NOTE: Single lite above is standard; other options below may require an upcharge.
Refer to manufacturer's size chart for glass panel sizes requiring the use of horizontal mullions.

- 2). [Multiple lites with horizontal mullion(s) at height(s) indicated from the bottom of the panel.]
3). [Single lite with simulated divided lites in pattern as shown on Drawings.]
4). Panel Size (W x H): As indicated.

NOTE: Maximum panel sizes are 3' 0" x 12' 0" (0.925 x 3.650 m) and 3' 3" x 10' 2" (1 x 3.1 m) with 2' 3" (0.7 m) the minimum panel width.

- 5). Rail Depth: 2-3/4 inch (70 mm)
6). Top Rail and Stile Width: 2-1/4 inch (57 mm)
7). Bottom Rail Width:
a). 2-5/16 inch (58 mm)

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

- b). [Manufacturer's standard kickplate with height indicated.]

NOTE: Indicate kickplate height. Select height between 6 and 12 inches (152 and 305 mm) high.

b. Frame:

- 1). Matching top track and side jambs
a). Top Track and Side Jambs Width: 2-9/16 inch (65 mm)
b). Top Track and Side Jambs Depth 3-1/8 inch (80 mm)

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

- 2). Sill Type:
a). [Higher weather performance raised sill (thermally broken)]
b). [Low profile saddle sill (thermally broken)]
c). [Flush sill (thermally broken)]
d). [Surface mounted interior sill (not thermally broken) for interior application]
3). Sill Finish: Aluminum with
a). [a clear anodized finish.]

- b). [a dark bronze anodized finish.]
 - c). [finished to match panel only with higher weather performance sill]
- 4). Cover plate over sill NOT acceptable.
- 5). For ADA Compliance: Provide gasket to cover the channel in the sill at swing doors.
- 2. Aluminum Extrusion: AlMgSi0.5 alloy, 6063-T5 (F-22 - European standard)
 - a. Thickness: 0.078-inch (2.0 mm) nominal
 - b. Acoustic Break: 3/4 to 15/16 inch (20 to 24 mm) wide polyamide plastic reinforced with glass fibers. Thinner or poured and de-bridged type acoustic breaks not acceptable.
- 3. Panel and Frame Aluminum Finish: Inside and Outside;
 - a. [Same (one-color)]
 - b. [Different (two-tone)]

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

- c. Anodized (AAMA 611):
 - 1). [Clear]
 - 2). [Dark Bronze]
- d. 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 - high gloss.]
 - c). [Custom finish.]
- e. PVDF Coat (AAMA 2605): Fluoropolymer Kynar with color to match custom finish.
- B. Glass and Glazing:
 - 1. Safety Glazing: In compliance with ASTM C1036, ASTM C1048, ANSI Z97.1 and CPSC 16CFR 1201.
 - 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.

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

Contact NanaWall for the availability of other commercial glass types.

For laminated glass, please check with NanaWall the availability of Vanceva White Collection and other color interlayers.

- a. Insulated Glass Unit (IGU) Lites:
 - 1). Double IGU:
 - a). [1-5/16 inch (34 mm), 6 mm + 6 mm STC 44 enhanced laminated glass to achieve unit STC of 42.]
 - 2). Triple IGU: [1-1/2 inch (38 mm) thick.]
- b. IGU Fill: Air filled
- c. Glass Lite Type:
 - 1). Standard (Light Transmission (LT) 89%)

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

- 2). [Low iron (Light Transmission (LT) 91%)]
- 3). [Solar bronze]
- 4). [Solar gray]
- d. Glass Spacers: Manufacturer's standard
 - 1). [silver gray finish with capillary tubes]
 - 2). [black finish with capillary tubes]
 - 3). [silver gray finish without capillary tubes]
 - 4). [black finish without capillary tubes]
- e. IGU Surface: Clear

C. Locking Hardware and Handles:

NOTE: Select one of the below Main Entry 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**] or [**Lever handles with return**] on the inside and outside, 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**].

NOTE: Locking is independently tested for acoustics, structural, air, water, and forced entry.

- a. Locking:
 - 1). Standard European profile cylinder
 - 2). [Adapter accommodating a 5-7 pin Small Format Interchangeable Core (SFIC) (SFIC core supplied by others)]
- b. Rods to be concealed and not edge mounted.
- c. After turn of key or thumb-turn, depression of handles withdraws latch.
- d. Lifting of handles engages rods and turn of key or thumb turn engages deadbolt and operates lock.
- e. [Secondary Swing Panel: Provide matching dummy lever handles on both sides with 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.

- f. [Secondary Swing Panel: Provide two-point locking with U-shaped handles on inside only for the secondary swing panel.]
- g. Lever Handle - Finish:
 - 1). Brushed satin stainless steel
 - 2). [Black titanium stainless steel]

NOTE: Handles above are standard; optional handle types below may require an upcharge.
Lever handle with return only available in "Brushed satin stainless steel."
Other compatible lever, L-shaped, and push-pull handle styles and finishes are available from other suppliers.

- 3). [Oil rubbed bronze solid brass.]
- 4). [Satin nickel solid brass.]
- 5). [White solid brass.]
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 a [**Pair of**] Swing Panel: Provide manufacturer's single-point single motion locking operated by GU Rondo lever handles for interior application only.
 - a. Locking:
 - 1). Standard European profile cylinder
 - 2). [Adapter accommodating a 5-7 pin Small Format Interchangeable Core (SFIC) (SFIC core supplied by others)]
4. Main Entry Panel for Models WITH a Swing Panel: Provide manufacturer's push/pull handles on both sides with dead bolt and separate lock set with key operation.

NOTE: This option is recommended with a door closer by others, but note that, when sliding the swing panel, the door closer will need to be disengaged if the swing panel is not attached to a side jamb.

- a. Locking:
 - 1). Standard European profile cylinder
 - 2). [Adapter accommodating a 5-7 pin Small Format Interchangeable Core (SFIC) (SFIC core supplied by others)]
 - b. Push-pull handles in a brushed stainless-steel finish and stainless-steel flat handles in a [**brushed satin finish.**] [**black titanium finish.**]
5. Main Entry Panel for Models WITH a [**Pair of**] Swing Panel(s): No hardware or locking provided by manufacturer; Field installed panic device(s) by Section 08 71 00 prepped for commercial application.

NOTE: Structural test load results will not apply for locking devices by others.

- a. Panic hardware (prepped, supplied, and installed by others):
 - 1). [Von Duprin 33/35A Series Narrow Stile Rim Exit Device]
6. Main Entry Pair of Panels on Models WITHOUT a Swing Panel: Provide manufacturer's standard L-shaped handles on the inside and outside, including a lock set with profile cylinder. Operation of lockset is by turn of key from outside and thumb-turn inside with two-point locking hardware operated by 180° turn of the handle.
 - a. L-Shaped Handles - Finish:
 - 1). Brushed satin stainless steel
 - 2). [Black titanium stainless steel]

NOTE: With the option below, main entry panel is operable from inside only and there is no latch.

7. Main Entry Panel: Provide manufacturer's standard U/L-shaped handle on inside only with concealed two-point locking hardware operated by 180° turn of handle.
8. Secondary Panels and Pairs of Folding Panels: Provide manufacturer's [**Standard handles**] [**Removable custodial handles**] and concealed two-point locking hardware operated by 180° turn of handle between each pair. Face applied flush bolt locking NOT acceptable.

NOTE: Locking is independently tested for structural, air, water, and forced entry.
Standard handles above are typical; removable custodial handles are an option that may require an upcharge.

- a. Standard Secondary Handle - Finish:
 - 1). Brushed satin stainless steel
 - 2). [Black titanium stainless steel]

NOTE: Handles above are standard; optional handle types below may require an upcharge.

- 3). [Brown nylon]

- 4). [Gray nylon]
- 5). [White nylon]
9. Handle Height: 41-3/8 inch (105 cm) centered from bottom of panel or as otherwise indicated.
10. Aluminum locking rods with standard fiberglass reinforced polyamide end caps at the top and bottom. Rods to have a stroke of 15/16 inch (24 mm).
11. 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-lubrication, ball bearing multi-rollers. Surface mounted hinges and running carriages NOT acceptable. Weight of panels borne by the bottom of the guide channel in the sill is NOT acceptable.
 1. Lower Running Carriage Carrying Capacity: 440 lbs. (200 kgs)
 2. Upper guide carriage and lower running carriage provided with four vertical stainless-steel wheels and two horizontal polyamide wheels.
 3. Vertical wheels to ride on top of stainless-steel guide track covers over the full length of the sill track and lie above the water run-off level.
 4. Wheels riding below water run-off level and wheels riding on aluminum surfaces are NOT acceptable.
 5. Swing Panel Hinges:
 - a. Zinc die cast with finish closest match to finish of frame and panels and stainless steel security hinge pins with set screws.

NOTE: Zinc die cast above is standard; stainless steel option below has an upcharge.
Finishes to match are closest matches available by the manufacturer.
Review for acceptability.

- b. [Stainless steel hinges and security hinge pins with set screws.]
 6. Adjustment: Provide folding-sliding hardware capable of compensation and adjustments without needing to remove panels from tracks, in width, 1/16 inch (1.5 mm) per hinge and in height, 5/64 inch (2 mm) up and down.
- E. Sound Gasketing: Manufacturer's double layer EPDM between panels, EPDM gasket and Q-Ion gasket, 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.

- F. Fasteners: Tapered pins or stainless steel screws for connecting frame components.

2.04 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 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.

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 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 requirement of 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. 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 requirements of a specific construction project.

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