**Section 102229 – GF Series**

**GF2 Pair Panel Low Profile Framed Acoustical Glasswall**

**PART 1 - GENERAL**

1.01 DESCRIPTION

 A. General

 1. Furnish and install operable glass partitions and suspension system. Provide all labor, materials, tools, equipment, and services for glass operable walls in accordance with provisions of contract documents.

1.02 RELATED WORK BY OTHERS

 A. Preparation of opening will be by General Contractor. Any deviation of site conditions contrary to approved shop drawings must be called to the attention of the architect.

 B. All header, blocking, support structures, jambs, and track enclosures, as required in 1.04 Quality Assurance.

 C. Pre-punching of support structure in accordance with approved shop drawings.

 D. Paint or otherwise finishing all trim and other materials adjoining head and jamb of the partitions.

 E. Film or finish for the glass.

1.03 SUBMITTALS

 A. Complete shop drawings are to be provided prior to fabrication indicating construction and installation details. Shop drawings must be submitted within 30 days after receipt of signed contract.

 B. Sound test of the system (not just the glass) must be included with shop drawings or will be rejected.

1.04 QUALITY ASSURANCE

 A. Preparation of the opening shall conform to the criteria set forth per ASTM E557 Standard Practice for Architectural Application and Installation of Operable Partitions.

 B. Glass shall be clear tempered per ASTM C1048-97B

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

 A. Proper storage of partitions before installation and continued protection during and after installation will be the responsibility of the General Contractor.

1.06 WARRANTY. Operable glass partitions shall be guaranteed against defects in material and workmanship for a period of one year.

**PART 2 - PRODUCTS**

2.01 ACCEPTABLE MANUFACTURERS

 A. HUFCOR is the basis of design - any manufacturer wishing to bid products like the product specified must submit to the architect 10 days prior to bidding complete data in support of compliance and a list of three past installations of products similar to those listed. The submitting manufacturer guarantees the proposed substituted product complies with the product specified as detailed on the drawings.

 B. Manufacturers must have a quality control system and be ISO 9001:2000 certified or equivalent.

 C. Product complies with the “Made in USA” FTC standard

2.02 MATERIALS

 A. Product to be top supported, center stacked paired, ½” [13] glass panels, Series GF2 as furnished by Hufcor, Inc.

 1. For those openings where an even number of panels (including the end pivot door) will fill the opening better than an odd number of panels, a 3-panel group may be available - contact your Hufcor Customer Service team member for more details and applicability.

 B. Panel Construction

 1. Panels shall be nominally 1.75” [41] thick, up to 4’ [1219] wide and up to 10’-5” [3175] tall with full perimeter extruded aluminum frame and mechanically-fastened corner construction. Vertical rail width is a nominal 1-3/4” [44]. Glazing seals and gaskets shall be included providing frame and glass separation with acoustic seal. Each panel shall have a nominal 1” [25] clearance from both top rail and floor.

 2. Panels shall stack with a minimum depth of (contact local distributor for stack depth options):

 a. 3” [76] per panel excluding optional door handle, floor bolt and lock hardware when using type 38 4-wheel carriers

 b. 3-3/4” [95] per panel excluding optional door handle, floor bolt and lock hardware when using alternate type 40 4-wheel carriers

 c. 2” [51] per panel excluding optional door handle, floor bolt and lock hardware when using alternate type 40 2-wheel carriers

 3. Seals

 a. The leading vertical edge of each panel shall incorporate a tongue with two vinyl gaskets to nest into the vertical recess in the edge of the adjoining panel, creating a positive, interlocking joint for panel stability, ease of panel alignment and sound seal.

 b. Top and bottom horizontal seals shall be continuous contact, multi-layer, vinyl sweep seals. The top seals maintain contact with the track and the bottom seals maintain contact with the floor or other surface along the path of the movable wall. The bottom rail height is a nominal 3-15/16” [100].

 c. **Floor tracks are not acceptable nor permitted.**

 4. Partition end condition on either lead end or trail end of movable wall shall be:

a. Full height Pivot panel of the same thickness and construction as the basic panels, one-way swing.

b. A Lever Closure panel which incorporates a standard panel with a telescoping lever actuated assembly to compress a bulb seal against wall with 56 lbs. (25 kg.) force. This will compensate for a gap between wall and panel up to 3” nominal [76].

c. A full height bulb seal to compress against wall

d. A bulb seal or bullnose seal to compress into a two-piece extruded aluminum wall jamb that will compensate for an out-of-plumb condition of (+) or (-) ½” [12].

5. The glass faces shall be factory installed single pane of one of the following options at 6.5 lbs. per sq. ft. (pick one):

 a. ½” [13] monolithic tempered safety glass

 b. ½” [13] laminated annealed safety glass with acoustical interlayer

 c. ½” [13] laminated annealed safety glass with 85% translucent white interlayer

 d. ½” [13] laminated annealed safety glass with 60% translucent white interlayer

 e. ½” [13] laminated annealed safety glass with 7% translucent white interlayer

 f. ½” [13] monolithic low iron tempered safety glass

 g. Optional (factory approval required): Acrylic, Custom Glass

Note that all Pivot Panels and Pass Door Panels and Pass Doors shall employ laminated tempered glass instead of annealed glass

 6. Panel construction with glass shall be 6.6 lbs. per sq. ft.

 7. Panels may contain a floor pin which is extended into a floor mounted receiver to stabilize and secure the panel in the opening. Floor pin travel distance will be a nominal 1-1/2” [38]

 a. A pivot panel contains an optional face activated floor pin.

 b. Each paired panel group contains lead panel with a face activated floor pin and a trail panel with a waist-high activated floor pin mounted into the panel edge.

 c. Each 3-panel group contains two lead panels with face activated floor pins and a trail panel with a waist-high activated floor pin mounted into the panel edge.

 C. Suspension system:

 1. Track shall be of clear anodized architectural grade extruded aluminum alloy 6063-T6 (no steel track will be allowed or accepted). Track design shall provide integral support for adjoining ceiling, soffit, or plenum sound barrier. Track shall be connected to the structural support by pairs of 3/8" [10] dia. threaded steel hanger rods. L, T, or X intersections shall be factory assembled and welded. Built-in ceiling trim shall be of anodized aluminum finish providing enclosure of plenum sound barrier on both sides of the track for maximum sound control. A section of track will be removable in order to make it possible for a panel to be removed from the track for later maintenance. (check with local Hufcor dealer for correct track)

 a. Each panel shall be supported by two carriers. Wheels to be of precision ground steel ball bearings with heat treated and hardened races encased with molded polymer tires.

 b. Optional – Hufcor Unispan® support system is available for installations with insufficient overhead support and for select layouts (consult your Hufcor Representative). The panels shall be supported by the Unispan pre-engineered truss and columns system fabricated of steel and aluminum. Unispan is attached to the building structure for lateral stability only – the load of the truss and partition is supported by the columns. The columns are connected to floor plates that distribute the load of the system at the floor – no additional footings needed.

 D. Finishes

 1. The visible aluminum frame parts finishes shall be (pick one):

 a. Standard finish - clear anodized

 b. Optional upgrade with leadtime – anodized black

 c. Optional upgrade with leadtime – anodized dark bronze

 d. Optional upgrade with leadtime – anodized champagne

 e. Optional upgrade with leadtime – powder coat paint

 E. Available Accessories/Options

 1. Handles:

 a. The standard door handle shall be a low profile aluminum extrusion in clear anodized finish in lengths of 5” [127], 10” [254] or full height of the panel

 b. Optional upgrade – Aluminum body wire or “D” door pull in 12” [305], 18” [457] and 24” [610] lengths in clear anodized, polished stainless, satin stainless, dark bronze anodized or black anodized finishes

 c. Optional upgrade – Stainless steel body ladder or “H” pull in 18” [457], 24” [610], 36” [914] or 48” [1219] lengths in polished stainless, satin stainless, dark bronze powder coat and black powder coat

 2. Locks:

 a. 5-pin random-keyed non-replaceable core floor lock. Key face or thumb turn on either side of panel or both. Available in Clear Anodized, Dark Bronze Anodized and Black Anodized supplied with matching trim rings.

 b. 7-pin same-keyed replaceable SFIC core floor lock (SFIC = small format interchangeable core). Key face or thumb turn on either side of panel or both. Available in Clear Anodized, Dark Bronze Anodized and Black Anodized, Bright Brass, Satin Brass, Bright Bronze, Satin Bronze, Oil Rubbed Bronze, Satin Nickel, Bright Chrome, Satin Chrome and Dark Statuary Bronze. Supplied with matching trim rings.

 c. Field prep for floor lock cylinder - no lock cylinder provided and to be provided by customer in field such as for custom or master keying. Lock cylinder is a standard size and format – consult with your Hufcor representative for more detailed information

2.03 OPERATION

1. Panels shall be manually moved from the storage area, positioned in the opening, and either edge activated or face activated floor pins set.
2. Final partition closure to be by (select one):

1. Lever Closure Panel with handle

2. Pivot Panel

3. 2” [51] trail gap

1. Stack/Store Panels
	1. Retract floor pins, open any Pivot Panel, fold and move to storage area. Panels may be stored at either or both ends of the track or in a pocket.

2.04 ACOUSTICAL PERFORMANCE

 A. **Supply a copy of the acoustical test report certifying that the partition was tested by a NVLAP accredited acoustical laboratory. The partition tested must be fully functional and meet ASTM-E90 standard or be replaced by manufacturer at their cost or bid as alternate**. The test results must be similar or exceed the performance specified. Sound tests performed on a single panel or on a non-functional partition will not be accepted. Any sound test not showing panel construction details with weight, or not disclosing all the information will not be valid. All equivalence requests must include complete technical information, a list of 3 similar projects already carried out as well as a copy of the appropriate acoustical performance sound test, at least 10 days before closing of the bids. The manufacturers must also guarantee that the products proposed have the same characteristics as the products specified and are in accordance with the drawings.

 Pick One:

1. Standard panel construction with ½” [13] monolithic tempered safety glass or monolithic low iron glass shall have obtained a system tested STC rating of 33.
2. Optional panel construction with ½” [13] laminated annealed safety glass with or without opaque interlayer shall have obtained a system tested STC rating of 37.
3. Optional panel construction with ½” [13] laminated glass with acoustical interlayer shall have obtained a system tested STC rating of 38.

**PART 3 - EXECUTION**

 A. Installation. The complete installation of the glass wall system shall be by an authorized factory-trained installer and be in strict accordance with the approved shop drawings and manufacturer’s standard printed specifications, instructions, and recommendations.

 B. Cleaning

 1. All track and panel surfaces shall be wiped clean and free of handprints, grease, and soil.

 2. Optional specialty glass requires special cleaning per instructions provided.

 3. Cartoning and other installation debris shall be removed to onsite waste collection area, provided by others

 C. Training

 1. Installer shall demonstrate proper operation and maintenance procedures to owner’s representative.

 2. Owner’s manuals shall be provided to owner’s representative.