SECTION 08 36 13.30

GLAZED HURRICANE SECTIONAL DOORS

Note: *For Windows 2010, upon completion of section editing, you may turn-off "Specifier Notes as follows: Click on "File" then "Options" then "Display" and remove check-mark for "Hidden text" in two locations as necessary.*

PART 1 GENERAL

1.01 SECTION INCLUDES Glazed sectional doors.

1.02 RELATED REQUIREMENTS Section 04 20 00 - Unit Masonry: Prepared opening in masonry.

B. Section 05 5000 - Metal Fabrications: Steel channel opening frame.

C. Section 26 0534 - Conduit: Empty conduit from control units to door operator.

D. Section 26 2717 - Equipment Wiring.

E. Section _____-_____: Electrical service to disconnect located near door operator.

1.03 REFERENCE STANDARDS

A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels; 2002.

B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2005.

C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2005.

D. ASTM A 227 - Standard Specification for Steel Wire, Cold-Drawn for Mechanical Springs; 2006.

E. ASTM A 641 - Standard Specification for Zinc–Coated (Galvanized) Carbon Steel Wire; 2009.

F. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a.

G. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2007.

H. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2008.

I. ASTM B 244 - Standard Test Method for Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments; 2009.

J. ASTM C 1036 - Standard Specification for Flat Glass; 2006.

K. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass—Kind HS, Kind FT Coated and Uncoated Glass; 2004.

L. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass; 2009.

M. 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; 2004.

N. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2010.

O. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2009.

P. ASTM E 547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference; 2009.

Q. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials; 2005.

R. ANSI/DASMA 102 - American National Standard Institute/Specifications for Sectional Overhead Type Doors; Door & Access Systems Manufacturers' Association, International; 2004.

S. ANSI/DASMA 103 – American National Standard Institute/Standard for Counterbalance Systems on Residential Sectional Garage Doors; Door & Access Systems Manufacturers' Association, International; 2006.

T. ANSI/DASMA 105 – American National Standard Institute/Test Method for Thermal Transmittance and Air Infiltration of Garage Doors; Door & Access Systems Manufacturers' Association, International; 2004.

U. ANSI/DASMA 108 – American National Standard Institute/Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance under Uniform Static Air Pressure Difference; Door & Access Systems Manufacturers' Association, International; 2005.

V. ANSI/DASMA 115 – American National Standard Institute/ Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance under Missile Impact and Cyclic Wind Pressure; Door & Access Systems Manufacturers' Association, International; 2005.

W. TAS 201 – Testing Application Standard, Impact Test Procedures; 1994.

X. TAS 202 – Testing Application Standard, Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure; 1994.

Y. TAS 203 – Testing Application Standard, Criteria for Testing Products Subject to Cyclic Wind Pressure Loading; 1994.

Z. NFPA 70 - National Electrical Code; National Fire Protection Association; 2008.

AA. NFRC 400 – National Fenestration Rating Council Incorporated; Procedure for Determining Fenestration Product Air Leakage; 2010.

1.04 SUBMITTALS See Section 01 30 00 – Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate accessories, opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Product Data: Show component construction, anchorage method, and hardware.

D. Samples: Submit two panel finish samples, 12 x 12 inch in size, illustrating color and finish.

E. Manufacturer's Installation Instructions: Include any special procedures required by project conditions.

F. Operation Data: Include normal operation, troubleshooting, and adjusting.

G. Maintenance Data: Include data for motor and transmission, shaft and gearing, lubrication frequency, spare part sources.

H. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

I. Sustainable Design Submittals:
1. Submit invoices and documentation from manufacturer of the amounts of pre-consumer and post-consumer recycled content for products specified.
2. Submit invoices and documentation showing manufacturing locations and origins of materials for products manufactured and sourced within 500 miles of project location.

J. LEED Submittal: Documentation of recycled content and location of manufacture.
1. Product Data for LEED Materials and Resources, MR Credit 4 – Recycled Content: For products having recycled content, provide documentation indicating percentages by weight of postconsumer and preconsumer recycled content.
   a. Include statement indicating cost for each product having recycled content.
2. Product Data for LEED Materials and Resources, MR Credit 5 – Regional Materials: For regional materials, manufactured within 500 miles of project site, indicating location and distance from Project of material manufacturer and point of extraction, harvest or recovery for each raw material.
   a. Include statement indicating cost for each regional material.
   b. For each regional material product, include statement indicating materials' cost, including values for assemblies by weight, and excluding labor, equipment, and delivery.

c. If only a portion of the material or product is extracted, harvested, or recovered and manufactured locally, then only provide percentage by weight for credit value.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 60 years of documented experience.

B. Installer: Company specializing in performing the work of this section with minimum three years of experience.

C. Conform to applicable code for motor and motor control requirements.

D. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage and Handling: Store materials in clean, dry, interior area in accordance with manufacturer's instructions. Protect materials from damage during handling and installation.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals for warranty requirements.

B. Warranty: Lifetime warranty on track and hardware including; heavy-duty stainless steel hinges, stainless steel sealed roller, high cycle galvanized springs, track, and aluminum alloy rails.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. BP Glass Garage Doors & Entry Systems; Product [Model BP-350] or [BP-450 HD] or [BP-550 SHD].
1. Address: 1511 W. 2nd Street, Pomona, CA 91766.
2. Phone: Toll Free (877) 442-1716, Phone (626) 442-1716, Fax (626) 579-5320.
3. Email: Service@glassgaragedoors.com
Website: www.GlassGarageDoors.com, www.GlassGarageDoors.net

2.01 PERFORMANCE REQUIREMENTS

A. Design and size sectional garage doors to withstand the following load requirements, when tested in accordance with ASTM E 330 using test loads equal to 1.5 times the design wind loads with 10 second duration of maximum load:
1. Design Wind Loads: Comply with requirements of local building code.
2. Positive Design Wind Load: 65 lbf/sq ft.
3. Negative Design Wind Load: 65 lbf/sq ft.
4. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.

B. Water Leakage: None, when measured in accordance with ASTM E 331 and ASTM E 547.

C. Air Infiltration: Limit air infiltration through assembly of wall area, measured at a specified differential pressure across assembly in accordance with NFRC 400, ASTM E 283 and ANSI/DASMA 105.
1. Air Infiltration Test Pressure Differential: [_____] or [6.24] pounds per square inch.
2. Air Leakage: 0.06 cfm.

D. Structural Performance:
1. In compliance with requirements of ANSI/DASMA 108 for static air pressure difference
2. In compliance with requirements of TAS 201, TAS 202, TAS 203, ANSI/DASMA 115, and ASTM E 1886 for missile impact and cyclic wind pressure.
3. Design Pressure for Small and Large Missile Impact Rating: Plus 65 psf or minus 65 psf.
4. Complies with Florida Building Code; Miami-Dade 10-0802.02, FL13380.

2.02 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A 653 with G40 coating.

B. Torsion Springs: Galvanized steel; ASTM A 227, Class II zinc coating in accordance with Section 9.2 of ASTM A 641.

C. Aluminum Sheet: ASTM B 209, 5005 alloy, H14 temper, plain surface.

D. Aluminum Extrusions: At least 38 ksi tensile strength; ASTM B 221 and Aluminum Association (AA) standards.

2.03 COMPONENTS

A. Aluminum Frames: Extruded aluminum with tensile strength of at least 38 ksi; complying with ANSI/DASMA 102 and 103, Commercial application.
1. Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E 330, using 10 second duration of maximum load.
2. Frame Height:
a. Model BP-350: [As indicated on Drawings] [_____]. (12 feet maximum)
b. Model BP-450 HD: [As indicated on Drawings] [_____]. (14 feet maximum)
c. Model BP-550 SHD: [As indicated on Drawings] [_____]. (16 feet maximum)
3. Frame Width:
a. Model BP-350: [As indicated on Drawings] or [_____]. (Range of 4 to 12 feet)
b. Model BP-450 HD: [As indicated on Drawings] or [_____]. (Range of 12 to 18 feet)
c. Model BP-550 SHD: [As indicated on Drawings] or [_____]. (Range of 18 to 24 feet)
4. Weight Capacity: (Use 5lbs. per sq. ft as multiplier)
a. Model BP-350: 350 lbs maximum.
b. Model BP-450 HD: 700 lbs maximum.
c. Model BP-550 SHD: 1600 lbs maximum.
5. Wall Thickness:
a. Model BP-350: 0.080 inch.
b. Model BP-450 HD: 0.105 inch.
c. Model BP-550 SHD: 0.188 inch.
6. Doors 17 to 24 Feet Wide:
a. Provide imbedded concealed stiffener strut, 0.135 inch thick, at key structural load points.
b. Provide concealed stiffener strut, 0.250 inch thick, at auxiliary load points.

B. Stiles and Rails (Model BP-350): Top and bottom rails and end stiles are 3 1/4 inch wide.
1. Horizontal Meeting Rail: Overall width, 2 3/4 inch.
2. Vertical Intermediate Center Mullions: 1 1/2 inch wide.
3. Fasteners: Zinc-plated 5/16 inch thru-bolts, nuts, and washers to secure stiles and rails.
4. Finish: [Clear anodized aluminum] [AAMA 2604, high performance organic coating] [AAMA 2603, residential and light commercial coating] [AAMA 2605, superior performance coating system].

C. Stiles and Rails (Model BP-450 HD): Top and bottom rails are 5 3/8 inch wide, and end stiles are 3 1/4 inch wide.
1. Horizontal Meeting Rail: Overall width, 2 3/4 inch.
2. Vertical Intermediate Center Mullions: 1 1/2 inch wide.
3. Fasteners: Zinc-plated 5/16 inch thru-bolts, nuts, and washers to secure stiles and rails.
4. Finish: [Clear anodized aluminum] [AAMA 2604, high performance organic finish] [AAMA 2603, residential and light commercial coating] [AAMA 2605, superior performance coating system].

D. Stiles and Rails (Model BP-550 SHD): Top and bottom rails are 7 3/8 inch wide, and end stiles are 3 1/4 inch wide.
1. Horizontal Meeting Rail: Overall width, 2 3/4 inch.
2. Vertical Intermediate Center Mullions: 1 1/2 inch wide.
3. Fasteners: Zinc-plated 5/16 inch thru-bolts, nuts, and washers to secure stiles and rails.
4. Finish: [Clear anodized aluminum] [AAMA 2604, high performance organic finish] [AAMA 2603, residential and light commercial coating] [AAMA 2605, superior performance coating system].

E. Door Thickness: 1 3/4 inch, nominal.

F. Joints: Smooth and tight fitting mitered joints.

G. Glazing Panels: Tempered glass, FT (Full tempered); ASTM C 1036 and ASTM 1048, Condition A, Quality q3, and meeting safety criteria of CPSC 16 CFR 1201 Categories 1 and 2, ANSI Z97.1.
1. Type: [Transparent] [Obscured frosted] [Clear] or [Color tinted hues].
2. Thickness: [_____] inch thick.
3. Moldings: Vinyl with aluminum snap-in beads.

H. Glazing Panels: Laminated safety glass; ASTM C 1172 with at least 0.030 inch thick polyvinyl butyral (PVB) interlayer, and meeting safety criteria of CPSC 16 CFR 1201 Categories 1 and 2, ANSI Z97.1.
1. Type: [Transparent] [Obscured frosted] [Clear] or [Color tinted hues].
2. Thickness: [_____] inch thick.
3. Moldings: Vinyl with aluminum snap-in beads.

I. Aluminum Panels: 1/8 inch thick.

J. Aluminum Panel Finish: [Clear anodized aluminum] [AAMA 2604, high performance organic finish] [Simulated wood grain powder coated aluminum] or [AAMA 2605, superior performance organic coating system].

K. Counter Balance: Galvanized torsion springs, head plates, and center spring supports mounted on continuous torsion bar and adjusted to counter weight and travel of door.
1. Cable Drums: Die cast aluminum, paired for track type indicated.
2. Lift Cables: High tension aircraft cable type, [1/8] or [3/16] inch diameter.
3. Springs: [Stainless steel] or [Galvanized] and related hardware as necessary for system indicated.
4. Electric operator(s): provided by Manufacturer (BP - Glass Garage Doors); based on track type, application, and product recommendation.

L. Track: As required for track system indicated with continuous steel support angles and slight taper to ensure weather-tight fit in closed position.
1. Track System: [Standard lift] [High lift] [Roof pitch] [Vertical lift] [Low headroom] or [Zero clearance].
2. Track Size: 2 inch.
   a. Material: 15 gage, galvanized steel on continuous support angle, track set, and brackets.
3. Track Size: 3 inch.
   a. Material: 12 gage, galvanized steel on continuous support angle, track set, and brackets.
4. (Optional) Track Size: 2 inch.
   a. Material: 15 gage, stainless steel, Type 304, on continuous support angle, track set, and brackets.
5. (Optional) Track Size: 3 inch.
   a. Material: 12 gage, stainless steel, Type 304, on continuous support angle, track set, and brackets.
6. Support Angle: [Stainless steel] [Galvanized steel].
7. Track Radius: [15 inches] [20 inches].

M. Hinges: 12 gage, stainless steel, offset type, graduated to ensure weather tight fit.

N. (Standard) Rollers: 2 inch, stainless steel, polymer coated roller, sealed, 500 lbs capacity each, with precision bearing.

O. (Optional) Rollers: 3 inch, stainless steel, polymer coated roller, sealed, 700 lbs capacity each, with precision bearing.

P. Operators: Manual chain hoist.

Q. Operators: Electric with [push button station] [key button station] or [remote control] type control in accordance with manufacturer's recommendations based on door weight, height, track type and local building code requirements.
1. Electric operator(s): provided by Manufacturer (BP - Glass Garage Doors); based on track type, application, and product recommendation.
2. Provide auto-reversing safety sensors.

R. Sill Weather-stripping: Factory applied EPDM gasket full length of bottom section and at each end of top rail making contact with bumper spring.

S. Jamb and Head Weather-stripping: Three part extruded aluminum and EPDM system with fasteners concealed with snap-on cover.
1. Mounted: [Interior] [Exterior] side.

T. Lock: Interior side mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior handle. (For use when Electric Operator is not present; cannot be combined)

2.04 FINISH

A. Superior Performance Organic Coating System: AAMA 2605; multiple coats, thermally cured polyvinylidene fluoride (PVDF) system.

B. High Performance Organic Finish (Powder Coat): AAMA 2604; multiple coats, thermally cured fluoropolymer system.

C. Simulated Wood Grain Powder Coated Aluminum: Combination of AAMA 2604 and AAMA 2603 organic coatings.

D. Clear Anodized Aluminum: Clear anodic coating; AA-M12C22A21 at most 4 mils thick; ASTM B 244.

E. Color: As selected by Architect from manufacturer's standard range.

F. Field Touch-Up Materials: As recommended by coating manufacturer for field application.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

B. Verify that electric power is available and of the correct characteristics.

C. Verify that field conditions and structural supports are acceptable and are ready to receive this work.

D. Verify that related items provided under other sections are properly sized and located.

E. Verify that built-in items are in proper location, and ready for installation of this work.

3.02 PREPARATION

A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.

3.03 INSTALLATION Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Fit and align door assembly including hardware.

E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

F. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07 9005.

3.04 TOLERANCES

A. Maximum Variation from Plumb: 1/16 inch.

B. Maximum Variation from Level: 1/16 inch.

C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.

D. Maintain dimensional tolerances and alignment with adjacent work.

3.05 ADJUSTING

A. Adjust door assembly for smooth operation and full contact with weather stripping.

B. Have manufacturer's field representative present to confirm proper operation and identify adjustments to door assembly for specified operation.

3.06 CLEANING

A. Clean doors, frames and glazing.

B. Remove temporary labels and visible markings.

3.07 PROTECTION

A. Protect installed products from damage during subsequent construction.

B. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

END OF SECTION