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SECTION 08 36 13.20

GLAZED INSULATED 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.
- F.

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 2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.

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- 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. NFPA 70 - National Electrical Code; National Fire Protection Association; 2008.
- V. NFRC 100 – National Fenestration Rating Council Incorporated; Procedure for Determining Fenestration Product U-factors; 2010.
- W. NFRC 200 – National Fenestration Rating Council Incorporated; Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2010.
- X. 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 post consumer and pre-consumer 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 three 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.

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- 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
 4. Website: www.GlassGarageDoors.com, www.GlassGarageDoors.net

2.01 PERFORMANCE REQUIREMENTS

- A. Fenestration U-Factors: NFRC 100.
- B. Fenestration Solar Heat Gain Coefficient and Visible Transmittance: NFRC 200.
- C. Water Leakage: None, when measured in accordance with ASTM E 331 and ASTM E 547.
- D. 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.
- E. Thermal Transmittance, Including Glazing: U-[___], maximum in accordance with ANSI/DASMA 105.

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)

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- 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].
- 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].
- 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].
- 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. Insulated Glazing Panels: CBA Certified Products through IGCC; tested in accordance with ASTM E 1290.
 1. Thickness: 1/2 inch, insulated glass units, dual sealed with polyisobutylene as primary sealant and silicone as secondary sealant.
 2. Low-E coating on #2 surfaces.
 3. Air Space: Argon filled.
 4. Type: [Transparent] [Obscured frosted] [Clear] or [Color tinted hues].
 5. U-Factor: As indicated.
 6. Solar Heat Gain Coefficient (SHGC): As indicated.
 7. Visible Light Transmittance: As indicated.

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8. Moldings: Vinyl with aluminum snap-in beads.
- J. Insulated Aluminum Panels: 1/2 inch thick insulated panel sandwiched between sheets of 0.065 inch thick aluminum sheets.
- K. Insulated 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].
- L. 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.
- M. 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].
- N. Hinges: 12 gage, stainless steel, offset type, graduated to ensure weather tight fit.
- O. (Standard) Rollers: 2 inch, stainless steel, polymer coated roller, sealed, 500 lbs capacity each, with precision bearing.
- P. (Optional) Rollers: 3 inch, stainless steel, polymer coated roller, sealed, 700 lbs capacity each, with precision bearing.
- Q. Operators: Manual chain hoist.
- R. 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.
- S. Sill Weather-stripping: Factory applied EPDM gasket full length of bottom section and at each end of top rail making contact with bumper spring.
- T. Jamb and Head Weather-stripping: Three part extruded aluminum and EPDM system with fasteners concealed with snap-on cover.
 1. Mounted: [Interior] [Exterior] side.
- U. 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)
- V. Lock Cylinders: See Section 08 71 00.

2.04 FINISH

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

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- 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 blocking 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

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- 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