

Project Information:

Project Name:

Project St. Address:

Project City & Zip:

SECTION 08 36 13.2

bp - Glass Garage Doors: Hurricane Line: (Miami-Dade NOA, Impact, Wind Rated)

FULL VIEW GLAZED - SECTIONAL OVERHEAD - GLASS GARAGE DOORS

(Large Missile, Small Missile, & HVHZ: High Velocity Hurricane Zone Compliant)

PART 1 - GENERAL

1.01 SUMMARY - Section Includes:

- A. Provide Full View Glazed Aluminum Sectional Overhead Type; Glass Garage Door(s) with Hurricane Rated Safety Glass (Laminated): Obscured, Transparent Clear, Tinted), or Solid Aluminum Panels; as designed per elevation. Frame rails will consist of Extruded Aluminum alloy with either: Clear Anodizing, Powder Coating, Kynar Paint, or as specified by Architect, or Project Rep., for color and type. System will also include all brackets, track system guides, counterbalance, stainless steel hinges, stainless steel rollers, stainless steel fixture hardware, electric motor or manual chain hoist, for a complete finish and operational installation.
 1. See 2.02 for Performance Requirements, 2.03 for Components; such as Glazing (type / color), track type, operator type, etc., and 2.04 for finish (type / color).
 2. Provide system to suit field conditions and openings with applicable headroom and side room

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00: Rough Carpentry and Framing. [Adhere shop drawing min. requirements]
- B. Section 26 05 00: Basic Materials: Empty conduit from control units to door operator. [By GC]
- C. Section 26 05 00: Electrical service to disconnect near door operator [120v dedicated receptacle]

1.03 SUBMITTALS – [Administrative Requirements, for submittal procedures]

- A. Shop Drawings: Indicate accessories, opening dimensions and required tolerances, connection details, anchorage, spacing, hardware locations, and installation details.
- B. Product Certification: Product line information specific to the performance requirements in section 2.02. Current copy of the FL # and/or Miami / Dade NOA; for verification jobsite specific wind pressures, large missile, small missile, impact, and cyclical testing.

- C. Samples: Submit two frame finish samples, and two panel samples; illustrating color and finish.
- D. Manufacturer's Installation Instructions: Include any known special procedures required by project conditions; for review by the Architect and Engineer of record.
- E. Operator Manuals [Data Sheet required; if the electric operators are specified]: Include specific model #, data for motor and transmission, gearing, lubrication frequency, maintenance, spare part sources, troubleshooting, and adjusting.
- F. Operator Station Control [Data Sheet required; if electric operators are specified]: Include specific model #, type, and information data sheet for motor control. [Required if the electric operators are specified]
- G. Optional Aux. Safety Components [Data Sheet: if the electric operators are specified]: Include specific model #, data sheet, maintenance, spare part sources, and manual.
- H. Warranty: Submit manufacturer warranty letter; after installation occurs. Ensure that the warranty forms have been completed in Owner's name, with jobsite address, pictures for verification that the installation occurred correctly, and is registered with manufacturer.
- I. Sustainable Design Submittals: (LEED, National Green Building Standards, Green Globes)
 - 1. Submit documentation from manufacturer of the amounts of pre-consumer and post-consumer recycled content for products specified.
 - 2. Submit documentation showing manufacturing locations and origins of materials for products manufactured and sourced within 500 miles of project location.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing of "Full View Type - Glass Garage Doors" specified in this section, with a minimum (70) seventy years of documented experience. Its Fenestration products must be tested "as a whole system" vs. relying on the data of (1) type of glazing panel alone. The test results must be certified by an independent third party laboratory, adhere to a quality assurance program; with current Miami / Dade NOA Licensing (which exceeds the Florida Building Code or and FL#); and permanent identification plaque(s) for verification. See Glazing Panel Type (for specific CPD #'s) in section 2.03.G
- B. Installer Qualifications: If product installation occurs within the State of Florida, a Factory Direct installation is recommended, but not required. Alternatively, a Company specializing in performing the work within this section (which has a min. 20 years of experience), and has acquired a letter of authorization from the Manufacturer; will also be acceptable.
- C. Applicable Codes: Follow all Federal, State, County, and City Building codes as applicable: NEC (National Electric Code): Wiring of motor and motor control requirements as applicable. State Energy Code: Air Infiltration & Sealing the Building Envelope (Specific to HVAC locations); and the product specified in this section is "tested as a whole unit" to provide Certified results for: U-Factors, SHGC, VT, and Air Infiltration rating to meet the energy calc's required per code.

Hurricane Impact Rating (Large Missile & Small Missile), Wind Speed Rating (Specific to Region); and the product specified in this section is "tested as a whole unit" to provide Certified results for: HVHZ (High Velocity Hurricane Zones) – ANSI / DASMA 108, TAS 201, TAS 202, and TAS 203.
- D. Independent third-party laboratory shall have current NFRC, FL, & Miami / Dade licensing.

- E. Products Requiring Electrical Connection: Listed and classified by UL (Underwriters Laboratories Inc.), as suitable for the purpose specified.
- F. Single-Source Responsibility Supplier: Provide Door(s), tracks, motors, and accessories from one manufacturer; to ensure that manufacturers' recommendation on various parts have been tested, and properly combined to function as described.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, and model: Ex. "Insulated Frame Line"
- 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.

1.06 WARRANTY

- A. Provide Closeout Submittals for warranty requirements: Submit manufacturer warranty letter; after installation occurs. Ensure that the warranty forms have been completed in Owner's name, with jobsite address, pictures for verification that the installation occurred correctly, and is registered with manufacturer.
- B. Warranty: Lifetime hardware warranty on single family residential installation only; as specified on contract options. High cycle life hardware warranty on commercial applications; as specified on contract options; including: track hardware, heavy-duty stainless steel hinges, stainless steel sealed roller, high cycle galvanized springs (as applicable by manufacturer), and high tensile aluminum alloy frame rails.

PART 2 - PRODUCTS

2.01 SYSTEM MANUFACTURER

- A. A manufacturer with no less than 70 years of experience in fabricating Full View Glass Garage Doors, Sectional Overhead Type. Current accreditations must include: "Fully Insulated Frame Technology" with ASTM Air & Water Certifications; per NFRC requirements, and current Miami / Dade NOA Licensing (which exceeds the Florida Building Code or and FL#); and permanent identification plaque(s) for verification of product type.

- B. Basis of Design:

bp - Glass Garage Doors & Entry Systems, Inc.
 1511 W. 2nd St.
 Pomona, CA 91766

Factory Direct / World-Wide Shipping:
 Toll Free: (877) 442-1716
 Direct: (626) 442-1716
 Web: www.GlassGarageDoors.com

Model Lines: (Can be combined with any product size)

bp - Insulated Line: Seals the Building Envelope (IECC & NFRC Compliant: HVAC Spaces)

bp - Hurricane Line: High Wind & Impact, Miami / Dade NOA (FL-HVHZ: Hurricane Zone)

bp - Classic-Standard Line: Garages, Warehouses (Non-Insulated / Non-HVAC Spaces)

bp - Storefront Combo Line: Entry Door w/ Garage (IECC & NFRC Cert.: HVAC Spaces)

bp - Entry Door & Gate Line: Matching Profiles to Garage (Ext. & Weather Exposed Locations)

Product Size Series: (Can be combined with any product line)

bp - 350 Size: (4ft. - 8ft. wide x 8 ft. high max.) Standard Duty

bp - 450 HD Size: (8ft. - 16 ft. wide x 12 ft. high max.) Heavy Duty

bp - 550 SHD Size: (16ft. - 24 ft. wide x 16 ft. high max.) Super Heavy Duty

Product Option: (Can be combined with any product line)

Water Resistance Option: For use in Dry Environments (Per ASTM E331, E547: HVAC Spaces)

- C. Contact **bp** for assistance in verifying: Model Lines, Product Sizes, Glass Type, Operator Type, Width, Height, Weight, and Building Code Requirements.
1. Phone: Toll Free: (877) 442-1716, Direct: (626) 442-1716
 2. Email (Request for Info): Service@GlassGarageDoors.com
 3. Website (Download Info.): www.GlassGarageDoors.com

2.02 PERFORMANCE REQUIREMENTS:

- A. Product must adhere to current Miami / Dade NOA Certification, Licensing, and Testing for wind Load Rating. Comply with requirements of local building codes. Withstand positive and negative wind loads equal to 50-65 PSF / 140-160mph, or as specified by local code; without damage or permanent set, when tested in accordance with ASTM E-330 (equals 1.5 times the design wind load) with 10 second duration of maximum load.
1. Wind Loads Design: Comply with engineering calculations from engineer of record.
 2. Positive Wind Load: 50-65 PSF / 140-160mph as required per code.
 3. Negative Wind Load: 50-65 PSF / 140-160mph as required per code.

4. Deflection: Limit member deflection to limit of glass in any direction, with full recovery of glazing materials.
- B. Structural Performance (Cyclical & Impact Forces): Comply with requirements of local building codes. Withstand positive and negative wind loads equal to 50-66 PSF / 140-160mph, or as specified by local code; without damage or permanent set, when tested in accordance with ASTM E-330 (equals 1.5 times the design wind load) with 10 second duration of maximum load.
1. In compliance with requirements of ANSI / DASMA 108 for static air pressure difference.
 2. In compliance with requirements of TAS 201, 202, ANSI / DASMA 115, and ASTM E-1886, for missile impact and cyclic wind pressure.
 3. Design pressure for small & large missile impact rating: plus 50-65psf or minus 50-65psf
 4. Complies with Florida Building Code: Miami / Dade 10-0802.02, FL 13380
 5. Product must be provided with a permanent plaque at the bottom interior (for inspection by the Architect and/or Representative of record; with certified results) also demonstrating compliance to the building inspector, and / or enforcement agency
- C. **Air Leakage Performance:** **Y / N** – (None by default, but **optionally available**; prior to placing an order.) To be determined by the Building Energy Code Requirements, Architect, or end user; when measured in accordance with ASTM E-283 and ANSI / DASMA 105: Air Infiltration Test Pressure Differential: 6.24 pounds per square inch. Entire assembly; including glass, panels, and Frames shall be certified by an independent Testing Lab; which indicates energy performance, wind load, cyclical testing, and technical information, when measured in accordance with NFRC 100, and NFRC 400. Current License Certifications (Per NFRC [Thermal & Air Infiltration Results]). Provide a summary of the conforming test procedures and result, which include, but are not limited to: Air Infiltration, Wind Load, and Structural Testing in accordance with ASTM E-283, ASTM E-330, ASTM E1996, and ASTM E1886, as applicable.
- D. **Water Leakage Performance Package:** **Y / N** – (None by default, but **optionally available**; prior to placing an order.) To be determined by the Architect, or end user; as applicable; when measured in accordance with ASTM E 331 and ASTM E 547 water testing methods. This package also includes [(1) each per door] a 4"-6"deep x ½" high x door width; Solid Aluminum Threshold. (Designed for heavy traffic [Pedestrian and Vehicular] with ADA compliance.) Tested for use with bp – Insulated Line, Air Infiltration, and Water Resistant Packages.
- E. Test Reports: Provide a summary of the conforming test procedures and result, which include, but are not limited to: Air Infiltration, Water Resistance, Load, and Structural Testing in accordance with ASTM E-283, ASTM E-330, ASTM E-331, ASTM E-547.
- F. High Cycle Life Torsion Springs: (20,000–100,000 cycles; as applicable) and available per Manufacturer engineered calculations, or Residential Projects: [Lifetime Spring Cycle Warranty].
- G. Hinges & Fixtures: 12ga, Stainless Steel, Laser Cut, and Precision Formed, offset numbered type, and graduated to ensure weather tight fit.
- H. Rollers: Stainless Steel Stem, Bushing, and Fitting, with polymer coated races, 500lb-800lb capacity each roller, with precision Stainless Steel Ball Bearings, and mechanically sealed on both sides. [Note: Roller size must match the appropriate track type]

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- I. Additional Components: All components found in section 2.03 are to be provided by the door manufacturer (as a single source supplier) to ensure that manufacturers recommendations on various parts, have been tested, and properly combined to function as described.
- J. Auxiliary stiffener struts: (Concealed Type) for doors over 17ft wide, 800lbs, or custom configurations; req. by factory safety standards [(1) ea. per section; will be provided as needed.
- K. Auxiliary hat strut: (1) per top section: for doors over 19' wide, exceeding 800lbs, or custom conf. req.'s by factory safety std.'s.
- L. Hurricane Braces, Stiles, and Rails: Extruded aluminum with tensile strength of at least 38 ksi; (approximately double the strength of 6063-T6 alloy) and complying with ANSI/DASMA 102 / 103.

2.03 COMPONENTS

- A. Stile & Rail Alloy: Extruded aluminum with tensile strength of at least 38 ksi; (approximately double the strength of 6063-T6 alloy) and complying with ANSI/DASMA 102 / 103.
- B. Product Sizes: **bp-350** (Top / Btm. rails: 3-1/4" tall x 6' wide door width max.), **bp-450HD** (Top / Btm. rails: 5-3/8" tall x 16' wide door width max.), & **bp-550SHD** (Top / Btm. rails: 7-3/8" tall x 24' door width max.); or as required per the Manufacturer's safety recommendations for the width, height, weight, and track operating clearance.
 - 1. Horizontal Meeting Rails: Combined overall width; 2-3/4 inch.
 - 2. Vertical Intermediate Center Mullions: 1-1/2 inch wide.
 - 3. End Stiles: 3-1/4 inch wide.
 - 4. Structural Fastening: Zinc-plated 5/16 inch thru-bolts, nuts, and tension indicating washers to secure stiles and rails.
- C. Door Thickness: 1 3/4 inch, nominal.
- D. Joints: Smooth and tight fitting mitered joints.
- E. Stop Moldings: "Aluminum" snap-in bead glass stops; (Non-Vinyl, or other type)
- F. Configuration & Elevation: Product should conform to the general drawings provided, and be consistent to the number of panels drawn in width, number of panels drawn in height; or per the safety limits and recommendations of the manufacturer.
- G. Glazing Panel Type: **Note: (by Architect, or Project Rep.)**
 - 1. Laminated Glass Panels: 3/8" Hurricane Rated safety glass; ASTM C-1172 with polyvinyl butyral (PVB) interlayer, and meeting safety criteria of CPSC 16 CFR 1201, Categories 1-2, and ANSI Z97.1
 - a. Color / Type / Makeup: **Clear / Transparent** / Hurricane Impact [**as default**]
 - 1.1 Additional Glass or Panel Choices (Ex. Aluminum): Colors, Types, Transparent, Obscured, or other, have been tested and provided for on the CPD (Certified Products Database) of the searchable NFRC Website:
http://search.nfrc.org/search/cpd/cpd_search_detail.aspx?cpdnum=BPC-A-1

- H. 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: 1/8"-1/4" diameter; per Manufacturer requirements
 3. Springs: Galvanized and related hardware as necessary for system indicated.
- I. Track: **Call Factory for Assistance**: (877) 442-1716 to designate Track Type] designated by the provided drawings and field conditions, or chose the appropriate option below. As provided with all track systems: a continuous (floor to ceiling) steel support angles, with a slight taper; to ensure weather-tight fit when in the closed position.
1. Track System Type: **Standard Lift - [as default]**; or in accordance with manufacturer's recommendations based on door weight, height, field conditions at header or as drawn. Standard Track requires 24" min. headroom clearance: from door opening height, to the underside of a ceiling, or fist obstruction: Ex.: Bottom side of a joist, HVAC, Mechanical, Electrical, Plumbing, or other materials that could interfere with the door operation. See shop drawings for more clarity on unobstructed clearances], or in accordance with manufacturer's recommendations based on door weight, height, field conditions at header.
 - a. Other track type options include:
 - i. Standard Track (16" – 24" min. header requirement)
 - ii. High Lift Track (36" – 72" min. header requirement)
 - iii. Full Vertical Lift Track (Double the door ht. + 18"; from floor to ceiling min.)
 - iv. Low Headroom (Track 2" track: 11" min. or 3" track: 17" min. header req.)
 - v. Roof Pitch Track (12 in 12 pitch or 45 degree max.)
 2. Track Size: In accordance with manufacturer's recommendations; based on door weight, width, height, field conditions of header; or as drawn, and per local building code requirements. [Note: Do not exceed 800lbs on 2" track, or 1600lbs on 3" track, based on a formula of 5lbs per square ft.] 2" x 15ga or 3" x 12ga galvanized steel commercial track set, on continuous wall mounted angle support, which extends from the floor up to the door header.
 3. Support Angle: 12ga. min. Galv. steel, or in accordance with manufacturer's recommendations based on door weight, height, track type and local building code requirements.
 4. Standard Track Radius: 20 inch, or in accordance with manufacturer's recommendations based on door weight, height, track type and local building code requirements.
- J. Hinges & Fixtures: 12ga, Stainless Steel, Laser Cut, and Precision Formed, offset numbered type, and graduated to ensure weather tight fit.
- K. Rollers: Stainless Steel Stem, Bushing, and Fitting, with polymer coated races, 500lb-800lb capacity each roller, with precision Stainless Steel Ball Bearings, and mechanically sealed on both sides. [Note: Roller size must match the appropriate track type]
- L. Operators: **Choose from (1) of the following**; or **[Call Factory for Assistance]** to designate exact type and model: (877) 442-1716] as provided by door manufacturer, and in accordance with recommendations based on door weight, height, track type, and local building code requirements.
1. Manual Chain Hoist Type Operator [For Use On High Lift, Full Vert., Standard, or Roof Pitch Track Only!] Note: Low Headroom Tracks will require a Trolley Type Electric Operator for Safety;

as provided by door manufacturer, and in accordance with manufacturer's recommendations based on door weight, height, track type and local building code requirements.

2. Lift Master: Model-MJ (Jackshaft Side Mount) Electric Operator with key station type control – [as default for commercial application]
 - a. Electrical Characteristics: Phase: [Single/Mono], Volts: [110-120], Hertz: 60, Dedicated 20 amp circuit for a (1) Horse Power A/C motor
 - b. Key Switch: If electrified; and/or required for security, or to avoid non authorized personnel to operate.

- M. Operator Station Control [Required if electric operators are specified]: Push Button Station or Key Switch operation with Constant Contact Pressure, as provided by door manufacturer, and in accordance with manufacturer's recommendations and local building code requirements. The control station should be located and installed in close proximity to the door, motor operator (left or right side), and provide unobstructed line to site vision; when operating (opening / closing) the unit. [Per UL325]

- N. Floor Seal / Btm. Weather Stripping Gasket: Factory applied EPDM gasket full length of bottom section and at each end of top rail making contact with bumper spring.

- O. Side Jamb & Header Weather Stripping: (2) part extruded aluminum and (1) part EPDM system with fasteners concealed inside snap-on cover. (2) sets ea.; mounted at interior perimeter (between jambs and continuous mounted angle, including the header), in addition to the exterior perimeter.

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

2.04 FINISH

- A. Color and Coating Type: As selected by Architect, from manufacturer's standard color range: Choose from (1) of the following below: (with color #; by Architect, or Project Rep.)
 1. Clear Anodized Aluminum: Clear anodic coating; AA-M12C22A21 3-4 mils thick; ASTM B 244. (10 year color fade warranty; verified by Manufacturer in writing)
 - a. Color (Jet Black Anodized): Tiger Drylac Powder Coatings: (38/80020) 10 yr wrty.
 3. Kynar Paint: Superior Performance Organic Coating System: AAMA 2605; multiple coats, thermally cured polyvinylidene fluoride (PVDF) system. (30 year color fade warranty; verified by Manufacturer in writing)
 - a. Color (Name / Number): ?????? [by Architect, or Project Rep.]
 4. Simulated Wood Grain Powder Coat: Combination of AAMA 2604 and AAMA 2603 organic coatings. (10 year color fade warranty; verified by Manufacturer in writing)
 - a. Color (Name / Number): ?????? [by Architect, or Project Rep.]
 - b. Field Touch-Up Materials: Spray Cans, or as recommended for field application

2.05 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, or Oil Coated per ASTM A 227 - Standard Specification for Steel Wire, Cold-Drawn for Mechanical Springs; 2006. High Cycle Life (Commercial Projects) or Lifetime Warranty (Residential Projects) as provided by Door Manufacturer.
- C. Aluminum Sheet: ASTM B 209, 5005 alloy, H14 temper, plain surface.
- D. Aluminum Extrusions: At least 38ksi tensile strength; ASTM B 221 and Aluminum Association (AA) standards.
- E. Stainless Steel Hinges & Fixtures: Graduated / Universal Hinges, Intermediate Hinges, Top Fixtures, Bottom Fixtures; and related hardware to be of 12ga. min. thickness, and 304 type min alloy

2.06 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.

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- 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. ANSI/DASMA 102 - American National Standard Institute/Specifications for Sectional Overhead Type Doors; Door & Access Systems Manufacturers' Association, International; 2004.
- R. ANSI/DASMA 103 – American National Standard Institute/Standard for Counterbalance Systems on Residential Sectional Garage Doors; Door & Access Systems Manufacturers' Association, International; 2006.
- S. 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.
- T. NFPA 70 - National Electrical Code; National Fire Protection Association; 2008.
- U. NFRC 400 – National Fenestration Rating Council Incorporated; Procedure for Determining Fenestration Product Air Leakage; 2010

PART 3 EXECUTION

3.01 VERIFICATION OF SITE CONDITIONS, MEASUREMENTS & REQUIREMENTS; PER SHOP DRAWINGS

- A. Do not begin installation until openings have been properly prepared.
- B. Verify that wall openings are ready to receive work, based on as built dimensions, and tolerances are within specified limits. If not possible, shop drawings must be sign off prior to fabrication.
- C. Verify that electric power is available and of the correct operator characteristics, if applicable.
- D. Verify that field conditions and structural blocking are acceptable, and are ready to receive this work.
- E. Verify that related items; whether provided under other sections or not (millwork, fixtures, shelves, cabinets, moldings, trim work, floor transitions to door frame, etc.), are properly located, and will not interfere with the door operation.
- F. Verify that built-in items (Electrical, Mechanical: Plumbing, HVAC Ducting & Registers, Fire Sprinklers, are in proper location, will not interfere with the proper operation of the door, operator, track, etc., and ready for installation of this work.
- G. Prime Contractor to verify required clearances and solid blocking requirements for door operation, including but not limited to; all existing equipment, structural, mechanical, or electrical components; near or around garage door DO NOT CONFLICT WITH OVERHEAD ROLLING

DOOR, ASSOCIATED TRACK, SOLID BLOCKING, OR OPERATOR prior to fabrication or installation of new door units. Verify that the Head-Plate / Bearing Brackets are bolted directly to

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the structural header, and not sitting on the horizontal track. Negligence in doing so can result in death, injury, or damage.

3.02 PREPARATION

- A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.
- B. Prime Contractor to verify required clearances and solid blocking requirements for door operation, including but not limited to; all existing equipment, structural, mechanical, or electrical components; near or around garage door. DO NOT CONFLICT WITH OVERHEAD ROLLING DOOR, ASSOCIATED TRACK, SOLID BLOCKING, OR OPERATOR prior to fabrication or installation of new door units. Verify that the Head-Plate / Bearing Brackets are bolted directly to the structural header, and not sitting on the horizontal track. Negligence in doing so can result in death, injury, or damage.

3.03 INSTALLATION

- A. 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.
- G. Provide the necessary equipment for a safe installation, which include, but are not limited to; scissor lifts [doors over 8ft high], cranes, specialty hoisting, harness, or rigging equipment.
- H. Provide the necessary shipping or transporting of freight, shipping crates, boxing, and/or sundries to ensure the product is not damaged during shipping, transporting to the site of installation, or installation.
- I. Prime Contractor to verify required clearances and solid blocking requirements for door operation, including but not limited to; all existing equipment, structural, mechanical, or electrical components; near or around garage door. DO NOT CONFLICT WITH OVERHEAD ROLLING DOOR, ASSOCIATED TRACK, SOLID BLOCKING, OR OPERATOR prior to fabrication or installation of new door units. Verify that the Head-Plate / Bearing Brackets are bolted directly to the structural header, and not sitting on the horizontal track. Negligence in doing so can result in death, injury, or damage.

3.04 TOLERANCES

- A. Maximum Variation from Plumb: 1/16 inch.
- B. Maximum Variation from Level: 1/16 inch.

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- C. Maximum Deflection [Width or Height]: 0.75%, when in the open or closed position.
- D. Maintain dimensional tolerances and alignment with adjacent work.
- E. Operating Weight: Door weights are approx. 5lbs. pr. sq. ft. max. (Based on Laminated Glass Panels: 3/8" Hurricane Rated safety glass; ASTM C-1172 with polyvinyl butyral (PVB) interlayer, and meeting safety criteria of CPSC 16 CFR 1201, Categories 1- 2, and ANSI Z97.1

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. Remove temporary labels and visible markings.
- B. Clean doors, frame rails, and glazing, with soapy water, and dry with a soft rag to avoid scratches

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 08 36 13.10]

bp Glass Garage Doors & Entry Systems, Inc.

Hurricane Line (US Pat.)

bp Glass Garage Doors meet hurricane requirements for wind load, impact, and cycling, in accordance with Miami-Dade County Test Protocols TAS 201 (lrg./sml. missile impact), TAS 202 (structural, air, forced entry), and TAS 203 (cyclical pressure). bp Glass Garage Doors have been certified, and issued a Florida Product Approval # 13380, and Miami-Dade NOA (Notice Of Acceptance) for our bp - 350 / 450HD / 550SHD: 18'w x 8'h or 24'w x 16'h size series.

bp Glass Garage Doors are engineered for impact resistance & structural performance, per ASTM E1996, ASTM E1886, & HVHZ: High Velocity Hurricane Zones

An optional NFRC Air and Water Leakage Resistance Package, is available for airtight openings, where energy code compliance required. Per NFRC 400.

bp Glass Garage Doors "Fully Insulated Frame Technology" (US & Intl. Pat.) reduces air leakage below the allowable residential and commercial standards.

Note: For Custom Design Pressures Requirements between +/- 65 & +/- 50, a One Time NOA or FPA can be provided for your specific project. Call bp for info...

Design Pressure & Impact Rating

NOA	+50.0	NOA	+65.0	Lrg. & Sml. Missile Impact Rated
20-	/ -50.0	20-	/ -65.0	
1123.02	PSF	1123.02	PSF	

MIAMI-DADE COUNTY
APPROVED



Air Leakage Resistance Results

(Per NFRC 400 / ASTM E283)

Residential Standard	0.3 CFM
Commercial Standard	0.4 CFM
bp - Glass Garage Doors results	0.06 CFM

Note: the lower the CFM = Better Air Leakage Resistance. Thermal ratings for U-factor, SHGC, VT available upon request, per NFRC 100

24ft wide x 16ft high (max.)



bp Glass Garage Doors & Entry Systems, Inc.

Insulated Line (US & Intl. Pat.)

bp Glass Garage Doors “Fully Insulated Frame Technology” (US & Intl. Pat.) is the key component for eliminating air leakage, when using Full Vision Type Doors to “seal the building envelope, or any HVAC climate controlled space.” Our Insulated Frame System, also enhances acoustical performance: STC = 36±
What is the point in having Insulated Glass Panels, if the frame leaks Air or Water?

bp **Insulated Line** glazing options consists of: 1/2” Krypton or Argon filled IG units. Each glass panel is sealed during fabrication process, to ensure an air-tight fit. Glazing options are available in transparent, obscured, low-E glass, and in a variety of color tints, to suit your design. Every glass type has a unique set of energy ratings: U-Values: ±/ - 0.22 - 0.99, SHGC: ±/ - 0.15 - 0.45, and VT: 0.02 - 0.46; and is ultimately determined by the glass specified on your project.

→ (Keep in mind that IG units (Insulated Glass) are ineffective if the frame leaks air!)

The bp - **NFRC Air Resistance Package** provides an airtight seal; where building code compliance is required. bp doors have been certified as a “whole system”, and not just glass alone. Testing reports and CPD #'s (Certified Products Database) for various glass types can be found at the **National Fenestration Rating Council: www.NFRC.org**



Note: The “bp - Water Resistant Option”, Per ASTM E331 & E547 [SOLD SEPARATELY], must be combined with the “bp - Air Infiltration Option” to function as tested. This **CAN NOT BE INSTALLED AFTERWARDS!**

Note: Doors or Windows WITHOUT Certified “NFRC” labels, are simply **FALSE ADVERTISING**, and ILLEGAL per the “IECC ENERGY CODE”. Insulated Glass alone WILL NOT make a Door or Window Insulated, unless it has been certified by the NFRC.org

24ft. wide x 18ft. high (max.)



bp - Air Leakage Resistance Package*	
Air Leakage Resistance Results (Per NFRC 400 / ASTM E283 / DASMA 105)	
Residential Standard	0.3 CFM
Commercial Standard	0.4 CFM
bp - Glass Garage Doors results	0.06 CFM

*Note: The lower the CFM = Better Air Leakage Resistance. Thermal ratings for U-factor, SHGC, VT available upon request, per NFRC 100 / 200.



bp Glass Garage Doors & Entry Systems, Inc.

bp - Water Resistance Option



24ft. wide x 18ft. high (max.)

Note: The **bp** - Water Resistant Option must be combined with the **bp** - Air Resistant Package, to function as tested!
CAN NOT BE INSTALLED AFTERWARDS.

The **bp** - Water Resistance Option has been Certified for: Residential, Lite Commercial, and Commercial performance.

The following testing methods were utilized:

- ❖ ASTM E331- Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls, by **Uniform** Static Air Pressure Differentials.
- ❖ ASTM E547 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls, by **Cyclical** Static Air Pressure Differentials.

Test Method E331 and E547			Title of Test Water Resistance			Results No Leakage	
Classification			DP	Pa	PSF	mph	" H2O
Res.	Lite Com.	Com.	30	220	4.59	42	0.88"

