

The Genuine. The Original.



**SECTION 083323
UPWARD COILING DOORS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Upward coiling service doors.
- B. High-performance springless upward coiling service doors.
- C. Upward coiling security shutters.
- D. Upward coiling sheet doors.

1.02 RELATED REQUIREMENTS

- A. Section << **079200 - Joint Sealants**>>: Sealing joints between frames and adjacent construction.
- B. Section << **083313 - Coiling Counter Doors**>>: Additional types of upward coiling doors.
- C. Section << **087100 - Door Hardware**>>: Cylinder cores and keys.
- D. Section << **260583 - Wiring Connections**>>: Power to disconnect.

1.03 REFERENCE STANDARDS

- A. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
- C. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.
- D. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).
- E. FBC TAS 201 - Impact Test Procedures; Testing Application Standard; 1994.
- F. FBC TAS 202 - Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure; Testing Application Standard; 1994.
- G. ICC (IECC)-2018 - International Energy Conservation Code; 2018.
- H. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's standard literature showing materials and details of construction and finish. << **Include data on electrical operation;** or **None - N/A**>>
- B. Shop Drawings: Indicate rough and actual opening dimensions, anchorage methods, hardware locations, and installation details.
- C. Manufacturer's Instructions: Indicate installation sequence and installation, adjustment, and alignment procedures.
- D. Installer's qualification statement.
- E. Operation and Maintenance Data: Indicate modes of operation, lubrication requirements and frequency, and periodic adjustments required.
- F. Specimen warranty.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing work of this section with minimum of << **5 years;** or _____ years>> of << **documented;** _____; or **None - N/A**>> experience in fabrication and installation of security closures.
- B. Installer Qualifications: Company specializing in performing work of this section with minimum of << **3 years;** or _____ years>> of << **documented;** _____; or **None - N/A**>> experience and approved by manufacturer.
- C. Products Requiring Electrical Connection: Listed and classified by << **UL (DIR); TUV; testing firm acceptable to authorities having jurisdiction;** or _____>> as suitable for purpose specified.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture.
- C. Store materials in dry, warm, ventilated, weathertight location.

1.07 WARRANTY

- A. Manufacturer Door-Only Warranty: Provide manufacturer warranty for door assembly for duration indicated under individual doors. Complete forms in <<**Owner**>>'s name and register with manufacturer.
- B. Manufacturer Door and Operator Warranty: Provide manufacturer's limited warranty for door and operator system free from material and workmanship defects for duration and cycles indicated under individual doors; counterbalance spring and finish not covered by warranty.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Overhead Door Corporation; www.overheaddoor.com; 1 (800) 929-3667.
- B. Substitutions: Not permitted.

2.02 UPWARD COILING SERVICE DOORS

- A. Overhead Door™ Brand; Model 600 Coil-Away.
 - 1. Slats: Interlocking, roll-formed, galvanized steel slats.
 - 2. Width: feet (mm).

3. Height: feet (mm).
4. Mounting: << **Surface-mounted on side indicated on drawings**; or **Between jamb**>>.
5. Opening Speed: Door to operate at variable speed up to << **8 inches (203 mm)**>> per second.
6. Closing Speed: Door to operate at variable speed up to << **12 inches (305 mm)**>> per second.
7. Operation Cycles: Capable of operating for minimum 10,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Door Only: Two years.
 - b. Door and Operator Warranty: Three years or 20,000 cycles, whichever comes first.
9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.9 kPa)**; **26 psf (1.2 kPa)**; **31 psf (1.4 kPa)**; **36 psf (1.7 kPa)**; or **41 psf (1.9 kPa)**>> in accordance with <<**ASTM E330/E330M**>>.
10. Wind Load: Not required.
11. Curtain Material: Galvanized steel, << **26 gauge, 0.217 inch (0.55 mm)**; or gauge, inch (mm)>> for widths up to << **12 feet 4 inches (3.75 m)**>>, << **24 gauge, 0.278 inch (0.63 mm)**; or gauge, inch (mm)>> for widths up to << **16 feet (4.9 m)**>>. Staking lock system locks end of each slat from lateral movement.
 - a. Slat Profile: Flat crown profile, type CAW.
 - b. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << **White interior and exterior**; **White interior and brown exterior**; or **Brown interior and white exterior**>>.
 - 2) PowderGuard Premium powder coat.
 - (a) Color: Color: << >>.
12. Bottom Bar: 6063-T6 aluminum.
 - a. Profile: << **Extruded T**; or **Extruded tube**>>.
 - b. Finish: << **Mill finish**; **Clear anodized**; **Black anodized**; **Bronze anodized**; or **PowderGuard Premium powder coat**; color>>.
13. Locking Options to Include: << **None**; **Slide lock**; **Cylinder**; or **Best cylinder**>>.
 - a. Lock Locations: << **Both jambs**; **Left only**; or **Right only**>>.
 - b. Lock Access: << **Coil side**; or **Opposite coil side**>>.
14. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: << **Required**; or **Not required**>>.
 - b. Lintel Brush Seal: << **Required**; or **Not required**>>.
15. Side Guides, Channels: Constructed of steel with members fully bolted together.
 - a. Finish: << **Galvanized**; or **Powder coated**; color>>.
16. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: << **Galvanized**; or **Powder coated**; color>>.

17. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (1:400 mm/sec)**>> of span. Adjustable spring tension required.
 18. Hood: << **Not required**; or **24-gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel)**>>.
 - a. Finish: << **Match curtain**; **Standard polyester base coat; white color**; **Standard polyester base coat; brown color**; or **PowderGuard Premium powder coat; _____ color**>>.
 19. Manual Operation: << **Push-up**; or **Chain hoist**>>.
 20. Motor Operation: << **Not required**; or **Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum 8 inches (203 mm), maximum 1 foot (305 mm) per second**>>.
 - a. Manual Override: << **Hoist**; **Hoist and jackshaft release**; or **Jackshaft release**>>.
 - b. Timer to Close: << **Not required**; or **Automatic closing controlled by adjustable hold-open time delay**>>.
 - c. Operation Supply Voltage: << **115/208/230V 1-phase 60Hz**; **208/230/460V 3-phase 60Hz**; **575V 3-phase 60Hz**; **220V 1-phase 50Hz**; **220V 3-phase 50Hz**; or **400V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination**; or **Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button**; **key switch**; **pull cord**; **loop detector**; **motion detector**; **treadle switch**; and **radio control**>>.
 - f. Motor Mounting: << **Wall-mounted**; or **Front of hood**>>, << **right-hand side**; or **left-hand side**>>.
 - g. Motor Enclosure: << **Not required**; **NEMA 4-12 watertight and oiltight**; **NEMA 4X corrosion-resistant**; **Totally enclosed, fan-cooled motor**; or **Totally enclosed, non-ventilated**>>.
 - h. Obstruction Safety Detection: Constant contact button only.
 - i. Obstruction Safety Detection:
 - 1) Primary, Monitored:
 - (a) Photo Eyes: << **Reflective photo-eyes**; **Thru-beam photo-eyes**; or **NEMA 4X photo-eyes**>>.
 - (b) Light Curtain: << **3 feet (0.9 m)**; **6 feet (1.8 m)**; or **_____ feet (_____ m)**>>.
 - (c) Safety Edge: << **2-wire reversing safety edge**; **Wireless reversing safety edge**; or **_____**>>.
 - 2) Secondary, Non-Monitored:
 - (a) Photo Eyes: << **Reflective photo-eyes**; **Thru-beam photo-eyes**; or **_____**>>.
 - (b) Light Curtain: << **3 feet (0.9 m)**; **6 feet (1.8 m)**; or **_____ feet (_____ m)**>>.
 - (c) Safety Edge: << **2-wire reversing safety edge**; or **_____**>>.
- B. Overhead Door™ Brand; Model 610.
1. Slats: Interlocking, roll-formed, metal slats.
 2. Width: feet (mm).
 3. Height: feet (mm).

4. Mounting: << **Surface-mounted on side indicated on drawings**; or **Between jamb**>>.
5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
6. Closing Speed: Door to operate at variable speed << **6 to 12 inches (152 to 305 mm)**>> per second.
7. Operation Cycles: Capable of operating for minimum 20,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Door Only: Two years.
 - b. Door and Operator Warranty: Three years or 20,000 cycles, whichever comes first.
9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa)**; **26 psf (1.25 kPa)**; **31 psf (1.48 kPa)**; **36 psf (1.72 kPa)**; **41 psf (1.96 kPa)**; **50 psf (2.39 kPa)**; **57 to 130 psf (2.73 to 6.22 kPa)**; **65 psf (3.11 kPa)**; or **68.9 psf (3.29 kPa)**>> in accordance with << **ASTM E330/E330M**>>.
10. Wind Load: Not required.
11. Curtain Material:
 - a. Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm)**; **20 gauge, 0.0396 inch (1.01 mm)**; **22 gauge, 0.0336 inch (0.86 mm)**; or _____ gauge, _____ inch (_____ mm)>>.
 - b. Aluminum: << **0.050 inch (1.27 mm)**; or _____ inch (_____ mm)>>.
 - c. Stainless Steel: << **20 gauge, 0.0359 inch (0.91 mm)**; or _____ gauge, _____ inch (_____ mm)>>.
 - d. Slat Profile: << **C-187**; **C-275**; **F-265**; or **FE-265**>>.
 - e. Fenestrated Slats: << **Not required**; **Perforated holes**; **5/8 by 3 inches (16 by 76 mm)**; **1 by 10 inches (25 by 254 mm)**; **5/8 by 3 inches (16 by 76 mm) with Plexiglass covers**; or **1 by 10 inches (25 by 254 mm) with Plexiglass covers**>>.
 - f. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << **Gray**; **Tan**; **White**; or **Brown**>>.
 - 2) << **PowderGuard Premium powder coat**; **PowderGuard Textured powder coat**; or **PowderGuard Max powder coat**>>.
 - (a) Color: << _____>>.
 - g. Aluminum Finish: << **Mill finish**; **Clear anodized**; **Black anodized**; **Bronze anodized**; or **PowderGuard Premium powder coat**; _____ **color**>>.
 - h. Stainless Steel Finish: << **No.2B mill**; or **No.4 satin**>>.
12. Bottom Bar: << **6063-T6 aluminum**; **Galvanized steel**; or **304 Stainless steel**>>.
 - a. Profile: << **Extruded T**; **Extruded tube**; **Double angle**; or **Single angle**>>.

- b. Finish: << **Mill finish**; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; Stainless No.4 satin; or Stainless No.2B mill>>.
 - 1) Color: << **Black**; Match curtain; or _____>>.
- 13. Locking Options to Include: << **None**; Slide lock; Cylinder; or Best cylinder>>.
 - a. Lock Locations: << **Both jambs**; Left only; or Right only>>.
 - b. Lock Access: << **Coil side**; or Opposite coil side>>.
- 14. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: << **Required**; or Not required>>.
 - b. Interior Guide Seal: << **Required**; or Not required>>.
 - c. Exterior Guide Seal: << **Required**; or Not required>>.
 - d. Lintel Brush Seal: << **Required**; or Not required>>.
- 15. Side Guides, Channels: Constructed of << **steel**; 304 stainless steel; or aluminum>> with members fully bolted together.
 - a. Finish: << **Mill finish**; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; Stainless No.4 satin; or Stainless No.2B mill>>.
 - 1) Color: << **Black**; Match curtain; or _____>>.
- 16. Brackets: << **Steel**; or 304 Stainless steel>> to support counterbalance and curtain.
 - a. Finish: << **Hot-dip galvanized**; Stainless No.4 satin; PowderGuard Premium powder coat; black color; PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; or PowderGuard Zinc powder coat; _____ color>>.
- 17. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (1:400 mm/sec)**>> of span. Adjustable spring tension required.
- 18. Hood: << **24 gauge, 0.028 inch stainless steel (0.63 mm stainless steel)**; Aluminum; **Not required**; or _____>>.
 - a. Finish: << **Match curtain**; **Standard polyester base coat; gray color**; Standard polyester base coat; tan color; Standard polyester base coat; white color; Standard polyester base coat; brown color; Galvanized G90 (Z275); Gray-primed galvanized G90 (Z275); Clear anodized; Black anodized; Bronze anodized; Mill finish; PowderGuard Premium powder coat; _____ color; or PowderGuard Textured powder coat; _____ color>>.
- 19. Manual Operation: << **Push-up**; Chain hoist; or Crank>>.
- 20. Motor Operation: << **Not required**; or **Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum 8 inches (203 mm), maximum 1 foot (305 mm) per second**>>.
 - a. Manual Override: << **Hoist**; Hoist and jackshaft release; or Jackshaft release>>.
 - b. Timer to Close: << **Not required**; or Automatic closing controlled by adjustable hold-open time delay>>.

- c. Operation Supply Voltage: << **115/208/230V 1-phase 60Hz; 208/230/460V 3 phase 60Hz; 575V 3-phase 60Hz; 220V 1-phase 50Hz; 220V 3-phase 50Hz; or 400V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
 - f. Motor Mounting: << **Wall-mounted; or Front of hood**>>, << **right-hand side; or left-hand side**>>.
 - g. Motor Enclosure: << **Not required; NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Totally enclosed, fan-cooled motor; or Totally enclosed, non-ventilated**>>.
 - h. Obstruction Safety Detection: Constant contact button only.
 - i. Obstruction Safety Detection:
 - 1) Primary, Monitored:
 - (a) Photo Eyes: << **Reflective photo-eyes; Thru-beam photo-eyes; or NEMA 4X photo-eyes**>>.
 - (b) Light Curtain: << **3 feet (0.91 m); 6 feet (1.83 m); or _____ feet (_____ m)**>>.
 - (c) Safety Edge: << **2-wire reversing safety edge; Wireless reversing safety edge; or _____**>>.
 - 2) Secondary, Non-Monitored:
 - (a) Photo Eyes: << **Reflective photo-eyes; Thru-beam photo-eyes; or _____**>>.
 - (b) Light Curtain: << **3 feet (0.9 m); 6 feet (1.8 m); or _____ feet (_____ m)**>>.
 - (c) Safety Edge: << **2-wire reversing safety edge; or _____**>>.
- C. Overhead Door™ Brand; Model 610S EverServe.
- 1. Slats: Interlocking, roll-formed, metal slats.
 - 2. Width: **_____ feet (_____ mm)**.
 - 3. Height: **_____ feet (_____ mm)**.
 - 4. Mounting: Surface mounted on side indicated on drawings.
 - 5. Opening Speed: Door to operate at variable speed of << **8 to 12 inches (203 to 305 mm)**>> per second.
 - 6. Closing Speed: Door to operate at variable speed of << **8 to 12 inches (203 to 305 mm)**>> per second.
 - 7. Operation Cycles: Capable of operating for minimum 500,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
 - 8. Available Warranty:
 - a. Limited Warranty: For 3 years or 500,000 cycles, whichever comes first.
 - 9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<ASTM E330/E330M>>.
 - 10. Wind Load: Not Required.

11. Impact Rating: Available with certification for large missile impact resistance (<<FBC TAS 201>> and <<FBC TAS 202>>), with design pressure of << _____ psf (_____ Pa)>> at << _____ feet (_____ mm)>> wide. This design is approved by<< the Florida Building Commission; Miami Dade NOA; Texas Department of Insurance; or None - N/A>>, << FL # _____; TDI # _____; _____; or None - N/A>>.
12. Curtain Material:
 - a. Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm); or _____ gauge, _____ inch (_____ mm)>>.**
 - b. Aluminum: << **0.040 inch (1.02 mm); or _____ inch (_____ mm)>>.**
 - c. Stainless Steel: << **20 gauge, 0.0359 inch (0.91 mm); 22 gauge, 0.0299 inch (0.76 mm); or _____ gauge, _____ inch (_____ mm)>>.**
 - d. Slat Profile: << **C-187; C-275; F-265; or FE-265>>.**
 - e. Fenestrated Slats: << **Not required; Perforated holes; 5/8 by 3 inches (16 by 76 mm); 1 by 10 inches (25 by 254 mm); 5/8 by 3 inches (16 by 76 mm) with Plexiglass covers; or 1 by 10 inches (25 by 254 mm) with Plexiglass covers>>.**
 - f. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << **Gray; Tan; White; or Brown>>.**
 - 2) << **PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Max powder coat>>.**
 - (a) Color: << _____>>.
 - g. Aluminum Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; _____ color>>.**
 - h. Stainless Steel Finish: << **No.2B mill; or No.4 satin>>.**
13. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or 304 Stainless steel>>.

 - a. Profile: Double angle.
 - b. Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; Stainless No.4 satin; or Stainless No.2B mill>>.**
 - c. Color: << **Black; Match curtain; or _____>>.****
14. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Included.
 - b. Interior Guide Seal: << **Required; or Not required>>.**
 - c. Exterior Guide Seal: << **Required; or Not required>>.**
 - d. Lintel Brush Seal: << **Required; or Not required>>.**
15. Side Guides, Channels: Constructed of steel with members fully bolted together.

- a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
- 16. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
- 17. Door Roll: Directly driven, springless roll constructed of steel tube with integral shafts, keyed on drive end and supported by self-aligning, greaseable, sealed bearings. Counterbalance device not required.
- 18. Hood: << **Not required; 24 gauge, 0.0278 inch (0.63 mm) galvanized steel; 24 gauge, 0.0239 inch (0.61 mm) stainless steel; or Aluminum**>>.
 - a. Finish: << **Match curtain; Standard polyester base coat; gray color; Standard polyester base coat; tan color; Standard polyester base coat; white color; Standard polyester base coat; brown color; Galvanized G90 (Z275); Gray-primed galvanized G90 (Z275); Clear anodized; Black anodized; Bronze anodized; Mill finish; PowderGuard Premium powder coat; _____ color; or PowderGuard Textured powder coat; _____ color**>>.
- 19. Motor Operation: Direct drive, integrated gear motor and brake assembly; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second. Operator and drive assembly is factory preassembled and provided with wiring harnesses needed direct from factory.
 - a. Manual Override: Hoist.
 - b. Timer to Close: Time-delay self-close timer and non-resettable cycle counter.
 - c. Operation Supply Voltage: << **208V 1-phase 60Hz; 208V 3-phase 60Hz; 230V 3-phase 60Hz; 575V 3-phase 60Hz; 220 to 240V 1-phase 50Hz; or 440 to 480V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
 - f. Motor Mounting: Shaft mount.
 - g. Obstruction Safety Detection:
 - 1) Primary, Monitored:
 - (a) Photo Eyes: << **Reflective photo-eyes; Thru-beam photo-eyes; Dual photo-eyes; or _____**>>.
 - (b) Safety Edge: << **2-wire reversing safety edge; or _____**>>.
 - 2) Secondary, Non-Monitored:
 - (a) Photo Eyes: << **Reflective photo-eyes; Thru-beam photo-eyes; Dual photo-eyes; or _____**>>.
 - (b) Safety Edge: << **2-wire reversing safety edge; or _____**>>.

D. Overhead Door™ Brand; Model 620 Stormtite.

1. Slats: Interlocking, roll-formed, metal slats.

2. Width: << _____ >>.

3. Height: << _____ >>.
4. Mounting: << **Surface-mounted on side indicated on drawings; or Between jamb**>>.
5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
6. Closing Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
7. Operation Cycles: Capable of operating for minimum 20,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Door Only: Two years.
 - b. Door and Operator Warranty: Three years or 20,000 cycles, whichever comes first.

9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<ASTM E330/E330M>>.
10. Wind Load: Not required.

11. Impact Rating: Available with certification for large missile impact resistance (<<FBC TAS 201>> and <<FBC TAS 202>>), with design pressure of << _____ psf (_____ Pa)>> at << _____ feet (_____ mm)>> wide. This design is approved by<< **the Florida Building Commission; Miami Dade NOA; Texas Department of Insurance; or None - N/A**>>, << **FL # _____; TDI # _____; or None - N/A**>>.
12. Curtain Material:
 - a. Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm); or _____ gauge, _____ inch (_____ mm)**>>.
 - b. Aluminum: << **0.050 inch (1.27 mm); or _____ inch (_____ mm)**>>.
 - c. Stainless Steel: << **20 gauge, 0.0359 inch (0.91 mm); or _____ gauge, _____ inch (_____ mm)**>>.

- d. Slat Profile: << **F-265**; or **FE-265**>>.

- e. Vision Lites with Plexiglas Covers: << **5/8 by 3 inches (16 by 76 mm)**; **1 by 10 inches (25 by 254 mm)**; or **Not required**>>.
- f. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << **Gray**; **Tan**; **White**; or **Brown**>>.
 - 2) << **PowderGuard Premium powder coat**; **PowderGuard Textured powder coat**; or **PowderGuard Max powder coat**>>.

 - (a) Color: << _____>>.
- g. Aluminum Finish: << **Mill finish**; **Clear anodized**; **Black anodized**; **Bronze anodized**; or **PowderGuard Premium powder coat**; _____ **color**>>.
- h. Stainless Steel Finish: << **No.2B mill**; or **No.4 satin**>>.
- 13. Bottom Bar: << **6063-T6 aluminum**; **Galvanized steel**; or **304 Stainless steel**>>.
 - a. Profile: << **Extruded T**; **Extruded tube**; **Double angle**; or **Single angle**>>.
 - b. Finish: << **Mill finish**; **Clear anodized**; **Black anodized**; **Bronze anodized**; **Hot-dip galvanized**; **PowderGuard Premium powder coat**; **PowderGuard Textured powder coat**; **PowderGuard Zinc powder coat**; **Stainless No.4 satin**; or **Stainless No.2B mill**>>.
 - 1) Color: << **Black**; **Match curtain**; or _____>>.
- 14. Locking Options to Include: << **None**; **Slide lock**; **Cylinder**; or **Best cylinder**>>.
 - a. Lock Locations: << **Both jambs**; **Left only**; or **Right only**>>.
 - b. Lock Access: << **Coil side**; or **Opposite coil side**>>.
- 15. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Included.
 - b. Interior Guide Seal: << **Required**; or **Not required**>>.

 - c. Exterior Guide Seal: << **Required**; or **Not required**>>.
 - d. Internal Hood Seal: Included.
 - e. Lintel Brush Seal: << **Required**; or **Not required**>>.

16. Side Guides, Channels: Constructed of << steel; **304 stainless steel**; or **aluminum**>> with members fully bolted together.
 - a. Finish: << Mill finish; **Clear anodized**; **Black anodized**; **Bronze anodized**; **Hot-dip galvanized**; **PowderGuard Premium powder coat**; **PowderGuard Textured powder coat**; **PowderGuard Zinc powder coat**; **Stainless No. 4 finish**; or **Stainless No. 2B finish**>>.
 - 1) Color: << Black; **Match curtain**; or _____>>.
17. Brackets: << Steel; or **304 Stainless steel**>> to support counterbalance and curtain.
 - a. Finish: << Hot-dip galvanized; **Stainless steel No.4 finish**; **PowderGuard Premium powder coat**; **color: black**; **PowderGuard Premium powder coat**; **color: _____**; **PowderGuard Textured powder coat**; **color: _____**; or **PowderGuard Zinc powder coat**; **color: _____**>>.
18. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << 0.03 inch per foot (1:400 mm/sec)>> of span. Adjustable spring tension required.
19. Hood: << Not required; **24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel)**; **24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel)**; or **Aluminum**>>. << Not required; **24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel)**; **24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel)**; or **Aluminum**>>
 - a. Finish: << **Match curtain**; Standard polyester base coat; **gray color**; **Standard polyester base coat**; **tan color**; **Standard polyester base coat**; **white color**; **Standard polyester base coat**; **brown color**; **Galvanized G90 (Z275)**; **Gray-primed galvanized G90 (Z275)**; **PowderGuard Premium powder coat**; _____ **color**; or **PowderGuard Textured powder coat**; _____ **color**>>.
20. Manual Operation: << Push-up; **Chain hoist**; or **Crank**>>.
21. Motor Operation: Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum << 8 inches (203 mm)>>, maximum << 1 foot (305 mm)>> per second.
 - a. Manual Override: << Hoist; **Hoist and jackshaft release**; or **Jackshaft release**>>.
 - b. Timer to Close: << Not required; or **Automatic closing controlled by adjustable hold-open time delay**>>.
 - c. Operation Supply Voltage: << 115/208/230V 1-phase 60Hz; **208/230/460V 3-phase 60Hz**; **575V 3-phase 60Hz**; **220V 1-phase 50Hz**; **220V 3-phase 50Hz**; or **400V 3-phase 50Hz**>>.
 - d. Signaling Device: << Horn and strobe combination; or **Traffic warning light**>>.
 - e. Actuation Device: Provide << push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control>>.
 - f. Motor Mounting: << Wall-mounted; or **Front of hood**>>, << right hand side; or left hand side>>.

- g. Motor Enclosure: << **Not required; NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Totally enclosed, fan-cooled motor; or Totally enclosed, non-ventilated**>>.
- h. Obstruction Safety Detection: Constant contact button only.
- i. Obstruction Safety Detection:
 - 1) Primary, Monitored: << **Reflective photo-eyes; Thru-beam photo-eyes; NEMA 4X photo-eyes; 2-wire reversing safety edge; Wireless reversing safety edge; 3-foot (0.91 m) light curtain; or 6-foot (1.83 m) light curtain**>>.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes; Thru-beam photo-eyes; 2-wire reversing safety edge; 3-foot (0.9 m) light curtain; or 6-foot (1.8 m) light curtain**>>.

E. Overhead Door™ Brand; Model 620S EverServe.

- 1. Slats: Interlocking, roll-formed, galvanized steel slats.

- 2. Width: << _____>>.

- 3. Height: << _____>>.
- 4. Mounting: Surface mounted on side indicated on drawings.
- 5. Opening Speed: Door to operate at variable speed of << **8 to 12 inches (203 to 305 mm)**>> per second.
- 6. Closing Speed: Door to operate at variable speed of << **8 to 12 inches (203 to 305 mm)**>> per second.
- 7. Operation Cycles: Capable of operating for minimum 500,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
- 8. Available Warranty:
 - a. Limited Warranty: Three years or 500,000 cycles, whichever comes first.

- 9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<ASTM E330/E330M>>.
- 10. Wind Load: Not required.

11. Impact Rating: Available with certification for large missile impact resistance (<<**FBC TAS 201**>> and <<**FBC TAS 202**>>), with design pressure of << _____ **psf (_____ Pa)**>> at << _____ **feet (_____ mm)**>> wide. This design is approved by << **the Florida Building Commission; Miami Dade NOA; Texas Department of Insurance; or None - N/A**>>, << **FL # _____; TDI # _____; _____; or None - N/A**>>.
12. Curtain Material:
- a. Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm);** or _____ gauge, _____ inch (_____ mm)>>.
 - b. Aluminum: << **0.050 inch (1.27 mm);** or _____ inch (_____ mm)>>.
 - c. Stainless Steel: << **20 gauge, 0.0359 inch (0.91 mm);** or _____ gauge, _____ inch (_____ mm)>>.
 - d. Slat Profile: << **F-265; or FE-265**>>.
 - e. Vision Lites: << **Not required; 5/8 by 3 inches (16 by 76 mm) with Plexiglas covers; or 1 by 10 inch (25 by 254 mm) with Plexiglas covers**>>.
 - f. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << **Gray; Tan; White; or Brown**>>.
 - 2) << **PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Max powder coat**>>.
 - (a) Color: << _____>>.
 - g. Aluminum Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; color: _____**>>.
 - h. Stainless Steel Finish: << **No.2B mill; or No.4 satin**>>.
13. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or 304 Stainless steel**>>.
- a. Profile: Double angle.
 - b. Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder**>>.

coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; Stainless No.4 satin; or Stainless No.2B mill>>.

1) Color: << **Black; Match curtain; or _____**>>.

14. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Included.
 - b. Interior Guide Seal: << **Required; or Not required**>>.

 - c. Exterior Guide Seal: << **Required; or Not required**>>.
 - d. Internal Hood Seal: Included.
 - e. Lintel Brush Seal: << **Required; or Not required**>>.
15. Side Guides, Channels: Constructed of steel with members fully bolted together.
 - a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
16. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: << **Match curtain; Hot-dip galvanized; PowderGuard Premium powder coat; color: black; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or PowderGuard Zinc powder coat; color: _____**>>.
17. Door Roll: Directly driven, springless roll constructed of steel tube with integral shafts, keyed on drive end and supported by self-aligning, greaseable, sealed bearings. Counterbalance device not required.
18. Hood: << **Not required; 24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel); 24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel); or Aluminum**>>.
 - a. Finish: << **Match curtain; Standard polyester base coat; gray color; Standard polyester base coat; tan color; Standard polyester base coat; white color; Standard polyester base coat; brown color; Galvanized G90 (Z275); Gray-primed galvanized G90 (Z275); PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; Clear anodized; Black anodized; Bronze anodized; or Mill finish**>>.
19. Motor Operation: Direct drive, integrated gear motor and brake assembly; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second. Operator and drive assembly is factory preassembled and provided with wiring harnesses needed direct from factory.
 - a. Manual Override: Hoist.
 - b. Timer to Close: Time-delay self-close timer and non-resettable cycle counter.
 - c. Operation Supply Voltage: << **208V 1-phase 60Hz; 208V 3-phase 60Hz; 230V 3-phase 60Hz; 575V 3-phase 60Hz; 220 to 240V 1-phase 50Hz; or 440 to 480V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.

- f. Motor Mounting: Shaft mount.
 - g. Obstruction Safety Detection:
 - 1) Primary, Monitored: << **Reflective photo-eyes; Dual photo-eyes; Thru-beam photo-eyes; or 2-wire reversing safety edge**>>.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes; Dual photo-eyes; Thru-beam photo-eyes; or Two-wire reversing safety edge**>>.
 - h. Control Panel: Electronic controller with microprocessor self-diagnostics. Digital readout indicates door action, alarm conditions, and fault conditions. Enclosure is IP54-rated, NEMA 3 equivalent.
- F. Overhead Door™ Brand; Model 625 Insulated Stormtite.
- 1. Slats: Insulated, interlocking, roll-formed, metal slats.

 - 2. Width: << _____>>.

 - 3. Height: << _____>>.
 - 4. Mounting: << **Surface-mounted on side indicated on drawings; or Between jamb**>>.
 - 5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 - 6. Closing Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 - 7. Operation Cycles: Capable of operating for minimum 20,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
 - 8. Available Warranty:
 - a. Door Only: Two years.
 - b. Door and Operator Warranty: Three years or 20,000 cycles, whichever comes first.

 - 9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<ASTM E330/E330M>>.

 - 10. Impact Rating: Available with certification for large missile impact resistance (<<FBC TAS 201>> and <<FBC TAS 202>>), with design pressure of << _____ psf (_____ Pa)>> at << _____ feet (_____ mm)>> wide. This design is approved by<< **the Florida Building Commission; Miami Dade NOA; Texas**>>.

Department of Insurance; or None - N/A>>, << FL # _____; TDI # _____; _____; or None - N/A>>.

11. Curtain Material:
 - a. Front Slat:
 - 1) Galvanized Steel: << 18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm); 24 gauge, 0.278 inch (0.63 mm); or _____ gauge, _____ inch (_____ mm)>>.
 - 2) Aluminum: << 0.040 inch (1.02 mm); or _____ inch (_____ mm)>>.
 - 3) Stainless Steel: << 20 gauge, 0.0359 inch (0.91 mm); 22 gauge, 0.0299 inch (0.76 mm); or _____ gauge, _____ inch (_____ mm)>>.
 - b. Back Slat:
 - 1) Galvanized Steel: << 22 gauge, 0.0336 inch (0.86 mm); 24 gauge, 0.278 inch (0.63 mm); or _____ gauge, _____ inch (_____ mm)>>.
 - 2) Aluminum: << 0.040 inch (0.6 mm); or _____ inch (_____ mm)>>.
 - 3) Stainless Steel: << 24 gauge, 0.239 inch (0.61 mm); or _____ gauge, _____ inch (_____ mm)>>.
 - c. Slat Profile: F-265i.
 - d. Slat R-Value: << R-value (RSI-value): 7.7 (1.35)>>.
 - e. Through Curtain Sound Rating: STC-28 in accordance with <<ASTM E90>>; STC-30 minimum, with hertz noise generator.
 - f. Installed System Sound Rating: STC-21 in accordance with <<ASTM E90>>.
 - g. U-Factor: 0.91 NFRC test report; maximum U-factor of maximum 1.00.
 - h. Air Infiltration: Meets <<ASHRAE Std 90.1 I-P>> and <<ICC (IECC)-2018>> C402.4.3 Air Leakage of fenestration, maximum 1.00 cfm/sq ft.
 - i. Vision Lites: << Not required; 5/8 by 3 inches (16 by 76 mm) with Plexiglas covers; or 1 by 10 inches (25 by 254 mm) with Plexiglas covers>>.
 - j. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << Gray; Tan; White; or Brown>>.
 - 2) << PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Max powder coat>>.
 - (a) Color: << _____>>.
 - k. Aluminum Finish: << Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; _____ color>>.
 - l. Stainless Steel Finish: << No.2B mill; or No.4 satin>>.
12. Bottom Bar: << 6063-T6 aluminum; Galvanized steel; or 304 Stainless steel>>.
 - a. Profile: << Double angle; or Extruded tube>>.
 - b. Finish: << Mill finish; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder

- coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; or Stainless No.4 satin>>.**
- 1) Color: << **Black; Match curtain; or _____**>>.
13. Locking Options to Include: << **None; Slide lock; Cylinder; or Best cylinder**>>.
- a. Lock Locations: << **Both jambs; Left only; or Right only**>>.
- b. Lock Access: << **Coil side; or Opposite coil side**>>.
14. Weatherstripping and Seals:
- a. Bottom Seal Astragal: Included.
- b. Exterior Guide Seal: << **Required; or Not required**>>.
- c. Interior Guide Seal: << **Required; or Not required**>>.
- d. Internal Hood Seal: Included.
- e. Lintel Brush Seal: << **Required; or Not required**>>.
- f. Air Infiltration: Meets <<**ASHRAE Std 90.1 I-P**>> and <<**ICC (IECC)-2018**>> C402.4.3 Air Leakage of fenestration, maximum 1.00 cfm/sq ft.
- 1) Air infiltration perimeter seal package includes guide cover, guide cap, dual brush exterior guide seal, << **4-inch (101.6 mm)**>> finned lintel brush seal, and vinyl bottom seal.
15. Side Guides, Channels: Constructed of << **steel; 304 stainless steel; or aluminum**>> with members fully bolted together.
- a. Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; or 304 stainless steel No.4 finish**>>.
- 1) Color: << **Black; Match curtain; or _____**>>.
16. Brackets: << **Steel; or 304 Stainless steel**>> to support counterbalance and curtain.
- a. Finish: << **Match curtain; Hot-dip galvanized; PowderGuard Premium powder coat; black color; PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; or PowderGuard Zinc powder coat; _____ color**>>.
17. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (1:400 mm/sec)**>> of span. Adjustable spring tension required.
18. Hood: << **Not required; 24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel); 24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel); or Aluminum**>>.
- a. Finish: << **Match curtain; Standard polyester base coat; gray color; Standard polyester base coat; tan color; Standard polyester base coat; white color; Standard polyester base coat; brown color; Galvanized G90 (Z275); Gray-primed galvanized G90 (Z275); PowderGuard Premium powder coat; _____ color; or PowderGuard Textured powder coat; _____ color**>>.
19. Manual Operation: << **Chain hoist; or Crank**>>.
20. Motor Operation: << **Not required; or Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum 8 inches (203 mm), maximum 1 foot (305 mm) per second**>>.
- a. Manual Override: << **Hoist; Hoist and jackshaft release; or Jackshaft release**>>.

- b. Timer to Close: << **Not required**; or **Automatic closing controlled by adjustable hold-open time delay**>>.
- c. Operation Supply Voltage: << **115/208/230V 1 phase 60Hz; 208/230/460V 3 phase 60Hz; 575V 3 phase 60Hz; 220V 1 phase 50Hz; 220V 3 phase 50Hz**; or **400V 3 phase 50Hz**>>.
- d. Signaling Device: << **Horn and strobe combination**; or **Traffic warning light**>>.
- e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
- f. Motor Mounting: << **Wall mounted**; or **Front of hood**>>, << **right hand side**; or **left hand side**>>.
- g. Motor Enclosure: << **Not required**; **NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Totally enclosed, fan-cooled motor; or Totally enclosed, non-ventilated**>>.
- h. Obstruction Safety Detection: Constant contact button only.
- i. Obstruction Safety Detection:
 - 1) Primary, Monitored: << **Reflective photo-eyes; Thru-beam photo-eyes; NEMA 4X photo-eyes; 2-wire reversing safety edge; Wireless reversing safety edge; 3-foot (0.9 m) light curtain; or 6-foot (1.8 m) light curtain**>>.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes; Thru-beam photo-eyes; 2-wire reversing safety edge; 3-foot (0.9 m) light curtain; or 6-foot (1.8 m) light curtain**>>.

G. Overhead Door™ Brand; Model 625S EverServe.

- 1. Slats: Insulated, interlocking, roll-formed, metal slats.

- 2. Width: << _____ >>.

- 3. Height: << _____ >>.
- 4. Mounting: Surface mounted on side indicated on drawings.
- 5. Opening Speed: Door to operate at variable speed of << **8 to 12 inches (203 to 305 mm)**>> per second.
- 6. Closing Speed: Door to operate at variable speed of << **8 to 12 inches (203 to 305 mm)**>> per second.
- 7. Operation Cycles: Capable of operating for minimum 500,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
- 8. Available Warranty:
 - a. Limited Warranty: For 3 years or 500,000 cycles, whichever comes first.

9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<**ASTM E330/E330M**>>.
10. Wind Load: Not required.
11. Impact Rating: Available with certification for large missile impact resistance (<<**FBC TAS 201**>> and <<**FBC TAS 202**>>), with design pressure of << **psf (Pa)**>> at << **feet (mm)**>> wide. This design is approved by<< **the Florida Building Commission; Miami Dade NOA; Texas Department of Insurance; or None - N/A**>>, << **FL #** ; **TDI #** ; ; or **None - N/A**>>.
12. Curtain Material:
 - a. Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm); 24 gauge, 0.278 inch (0.63 mm); or** **gauge, inch (mm)**>>.
 - b. Aluminum: << **0.040 inch (1.02 mm); or** **inch (mm)**>>.
 - c. Stainless Steel: << **20 gauge, 0.0359 inch (0.91 mm); 22 gauge, 0.0299 inch (0.76 mm); or** **gauge, inch (mm)**>>.
 - d. Slat Profile: F-265i.
 - e. Slat R-Value: << **R-value (RSI-value): 7.7 (1.35)**>>.
 - f. Through Curtain Sound Rating: STC-28 in accordance with <<**ASTM E90**>>; STC-30 minimum, with hertz noise generator.
 - g. Installed System Sound Rating: STC-21 in accordance with <<**ASTM E90**>>.
 - h. U-Factor: 0.91 HFRC test report; maximum U-factor of maximum 1.00.
 - i. Vision Lites: << **Not required; 5/8 by 3 inches (16 by 76 mm) with Plexiglas covers; or 1 by 10 inches (25 by 254 mm) with Plexiglas covers**>>.
 - j. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << **Gray; Tan; White; or Brown**>>.
 - 2) << **PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Max powder coat**>>.
 - (a) Color: << >>.
 - k. Aluminum Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; color:**>>.
 - l. Stainless Steel Finish: << **No. 2B mill; or No. 4 satin**>>.
13. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or 304 Stainless steel**>>.

- a. Profile: Double angle.
 - b. Finish: << **Mill finish**; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; Stainless No.4 satin; or Stainless No.2B mill>>.
 - 1) Color: << **Black**; Match curtain; or _____>>.
14. Weatherstripping and Seals:
- a. Bottom Seal Astragal: Included.
 - b. Exterior Guide Seal: << **Required**; or Not required>>.
 - c. Interior Guide Seal: << **Required**; or Not required>>.
 - d. Internal Hood Seal: Included.
 - e. Lintel Brush Seal: << **Required**; or Not required>>.
15. Side Guides, Channels: Constructed of steel with members fully bolted together.
- a. Finish: << **Hot-dip galvanized**; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat>>.
 - 1) Color: << **Black**; Match curtain; or _____>>.
16. Brackets: Steel to support counterbalance and curtain.
- a. Finish: << Match curtain; **Hot-dip galvanized**; PowderGuard Premium powder coat; black color; PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; or PowderGuard Zinc powder coat; _____ color>>.
17. Door Roll: Directly driven, springless roll constructed of steel tube with integral shafts, keyed on drive end and supported by self-aligning, greaseable, sealed bearings. Counterbalance device not required.
18. Hood: << **Not required**; **24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel)**; **24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel)**; or Aluminum>>.
- a. Finish: << Match curtain; **Standard polyester base coat; gray color**; Standard polyester base coat; tan color; Standard polyester base coat; white color; Standard polyester base coat; brown color; Galvanized G90 (Z275); Gray-primed galvanized G90 (Z275); PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; Clear anodized; Black anodized; Bronze anodized; or Mill finish>>.
19. Motor Operation: Direct drive, integrated gear motor and brake assembly; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second. Operator and drive assembly is factory preassembled and provided with wiring harnesses needed direct from factory.
- a. Manual Override: Hoist.
 - b. Timer to Close: Time-delay self-close timer and non-resettable cycle counter.
 - c. Operation Supply Voltage: << **208V 1-phase 60Hz**; **208V 3-phase 60Hz**; **230V 3-phase 60Hz**; **575V 3-phase 60Hz**; **220-240V 1 phase 50Hz**; or **440-480V 3 phase 50Hz**>>.

- d. Signaling Device: << **Horn and strobe combination**; or **Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button**; **key switch**; **pull cord**; **loop detector**; **motion detector**; **treadle switch**; and **radio control**>>.
 - f. Motor Mounting: Shaft mount.
 - g. Obstruction Safety Detection:
 - 1) Primary, Monitored: << **Reflective photo-eyes**; **Thru-beam photo-eyes**; **Dual photo-eyes**; or **2-wire reversing safety edge**>>.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes**; **Thru-beam photo-eyes**; **Dual photo-eyes**; or **2-wire reversing safety edge**>>.
 - h. Control Panel: Electronic controller with microprocessor self-diagnostics. Digital readout indicates door action, alarm conditions, and fault conditions. Enclosure is IP54-rated, NEMA 3 equivalent.
- H. Overhead Door™ Brand; Model 627 Insulated Stormtite AP.
- 1. Slats: Insulated, interlocking, roll-formed, metal slats.
 - 2. Width: << _____>>.
 - 3. Height: << _____>>.
 - 4. Mounting: << **Surface-mounted on side indicated on drawings**; or **Between jamb**>>.
 - 5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 - 6. Closing Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 - 7. Operation Cycles: Capable of operating for minimum 20,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
 - 8. Available Warranty:
 - a. Door Only: Two years.
 - b. Door and Operator Warranty: Three years or 20,000 cycles, whichever comes first.
 - 9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa)**; **26 psf (1.25 kPa)**; **31 psf (1.48 kPa)**; **36 psf (1.72 kPa)**; **41 psf (1.96 kPa)**; **50 psf (2.39 kPa)**; **57 to 130 psf (2.73 to 6.22 kPa)**; **65 psf (3.11 kPa)**; or **68.9 psf (3.29 kPa)**>> in accordance with <<**ASTM E330/E330M**>>.
 - 10. Wind Load: Not required.
 - 11. Impact Rating: Available with certification for large missile impact resistance (<<**FBC TAS 201**>> and <<**FBC TAS 202**>>), with design pressure of << _____ **psf (_____ Pa)**>> at << _____ **feet (_____ mm)**>> wide. This design is approved

by << **the Florida Building Commission; Miami Dade NOA; Texas Department of Insurance; or None - N/A**>>, << **FL # _____; TDI # _____; or None - N/A**>>.

12. Curtain Material:
- a. Front Slat:
 - 1) Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm); 24 gauge, 0.0278 inch (0.63 mm); or _____ gauge, _____ inch (_____ mm)**>>.
 - 2) Aluminum: << **0.040 inch (1.02 mm); or _____ inch (_____ mm)**>>.
 - 3) Stainless Steel: << **22 gauge, 0.0299 inch (0.76 mm); or _____ gauge, _____ inch (_____ mm)**>>.
 - b. Back Slat:
 - 1) Galvanized Steel: << **24 gauge, 0.0278 inch (0.63 mm); or _____ gauge, _____ inch (_____ mm)**>>.
 - 2) Aluminum: << **0.024 inch (0.6 mm); or _____ inch (_____ mm)**>>.
 - 3) Stainless Steel: << **24 gauge, 0.239 inch (0.61 mm); or _____ gauge, _____ inch (_____ mm)**>>.
 - c. Slat Profile: FIT-265.
 - d. Slat R-Value: << **R-value (RSI-value): 10.9 (1.91)**>>.
 - e. Through Curtain Sound Rating: STC-28 in accordance with <<ASTM E90>>; STC-30 minimum, with hertz noise generator.
 - f. Installed System Sound Rating: STC-21 in accordance with <<ASTM E90>>.
 - g. U-Factor: 0.84 NFRC test report, maximum U-factor of maximum 1.00.
 - h. Air Infiltration: Meets <<ASHRAE Std 90.1 I-P>> and <<ICC (IECC)-2018>> C402.4.3 air leakage, maximum 1.00 cfm/sq ft.
 - i. Vision Lites: << **Not required; 5/8 by 3 inches (16 by 76 mm) with Plexiglas covers; or 1 by 10 inches (25 by 254 mm) with Plexiglas covers**>>.
 - j. Galvanized Steel Finish:
 - 1) Standard polyester base coat.
 - (a) Color: << **White; Tan; Gray; or Brown**>>.
 - 2) << **PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Max powder coat**>>.
 - (a) Color: << _____>>.
 - k. Aluminum Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; _____ color**>>.
 - l. Stainless Steel Finish: << **No.2B mill; or No.4 satin**>>.
13. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or 304 Stainless steel**>>.
- a. Profile: << **Double angle; or Extruded tube**>>.

- b. Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; or Stainless No.4 satin**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
- 14. Locking Options to Include: << **None; Slide lock; Cylinder; or Best cylinder**>>.
 - a. Lock Locations: << **Both jambs; Left only; or Right only**>>.
 - b. Lock Access: << **Coil side; or Opposite coil side**>>.
- 15. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Included.
 - b. Interior and Exterior EPDM Triple-Seal Finned Guide Seal: Included.
 - c. Internal Hood Seal: Included.
 - d. Lintel Brush Seal: Included.
 - e. Air Infiltration Package: Comply with <<**ICC (IECC)-2018**>> C402.4.3 2012 air leakage, maximum 1.00 cfm/sq ft.
 - 1) Air infiltration perimeter seal package includes guide cover, guide cap, PVC weather seal on exterior of guide, EPDM triple-finned weather seal on interior of guide, lintel weather seal, and vinyl bottom seal.
- 16. Side Guides, Channels: Constructed of steel with members fully bolted together.
 - a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
- 17. Brackets: << **Steel; or 304 Stainless steel**>> to support counterbalance and curtain.
 - a. Finish: << **Match curtain; Hot-dip galvanized; PowderGuard Premium powder coat; black color; PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; or PowderGuard Zinc powder coat; _____ color**>>.
- 18. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (1:400 mm/sec)**>> of span. Adjustable spring tension required.
- 19. Hood: << **Not required; 24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel); 24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel); or Aluminum**>>.
 - a. Finish: << **Match curtain; Gray; Tan; White; Brown; Galvanized G90; Gray-primed galvanized G90; PowderGuard Premium powder coat; _____ color; or PowderGuard Textured powder coat; _____ color**>>.
- 20. Manual Operation: << **Chain hoist; or Crank**>>.
- 21. Motor Operation: << **Not required; or Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum 8 inches (203 mm), maximum 1 foot (305 mm) per second**>>.
 - a. Manual Override: << **Hoist; Hoist and jackshaft release; or Jackshaft release**>>.
 - b. Timer to Close: << **Not required; or Automatic closing controlled by adjustable hold-open time delay**>>.

- c. Operation Supply Voltage: << **115/208/230V 1-phase 60Hz; 208/230/460V 3-phase 60Hz; 575V 3-phase 60Hz; 220V 1-phase 50Hz; 220V 3-phase 50Hz; or 400V 3-phase 50Hz**>>.
- d. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
- e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
- f. Motor Mounting: << **Wall-mounted; or Front of hood**>>, << **right-hand side; or left-hand side**>>.
- g. Motor Enclosure: << **Not required; NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Totally enclosed, fan-cooled motor; or Totally enclosed, non-ventilated**>>.
- h. Obstruction Safety Detection: Constant contact button only.
- i. Obstruction Safety Detection:
 - 1) Primary, Monitored: << **Reflective photo-eyes; Thru-beam photo-eyes; NEMA 4X photo-eyes; 2-wire reversing safety edge; Wireless reversing safety edge; 3-foot (0.9 m) light curtain; or 6-foot (1.8 m) light curtain**>>.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes; Thru-beam photo-eyes; 2-wire reversing safety edge; 3-foot (0.9 m) light curtain; or 6-foot (1.8 m) light curtain**>>.

2.03 HIGH-PERFORMANCE SPRINGLESS UPWARD COILING DOORS

- A. Overhead Door™ Brand; Model 611 RapidSlat.
 - 1. Slats: Interlocking, roll-formed, metal slats.
 - 2. Width: **feet (** **mm).**
 - 3. Height: **feet (** **mm).**
 - 4. Mounting: Surface mounted on side indicated on drawings.
 - 5. Opening Speed: Door to operate at variable speed up to << **24 inches (610 mm)**>> per second.
 - 6. Closing Speed: Door to operate at variable speed up to << **12 inches (305 mm)**>> per second.
 - 7. Operation Cycles: Capable of operating for minimum one million cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
 - 8. Available Warranty:
 - a. Limited Warranty: For 5 years or one million cycles, whichever comes first.
 - 9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<ASTM E330/E330M>>.
 - 10. Wind Load: Not required.
 - 11. Impact Rating: Available with certification for large missile impact resistance (<<FBC TAS 201>> and <<FBC TAS 202>>), with design pressure of << **psf (** **Pa)**>> at << **feet (** **mm)**>> wide. This design is approved by<< **the Florida Building Commission; Miami Dade NOA; Texas**>>.

Department of Insurance; or None - N/A>>, << FL # _____; TDI # _____; _____; or None - N/A>>.

12. Curtain Material:
 - a. Galvanized Steel: << **24 gauge, 0.278 inch (0.63 mm)**; or _____ gauge, _____ inch (_____ mm)>>.
 - b. Aluminum: << **0.040 inch (1.02 mm)**; or _____ inch (_____ mm)>>.
 - c. Stainless Steel: << **24 gauge, 0.239 inch (0.61 mm)**; or _____ gauge, _____ inch (_____ mm)>>.
 - d. Slat Profile: << **C-187; C-275; F-265; or FE-265**>>.
 - e. Fenestrated Slats: << **Not required; Perforated holes; 5/8 x 3 inch (16 x 76 mm); 1 x 10 inch (25 x 254 mm); 5/8 x 3 inch (16 x 76 mm) with Plexiglas covers; or 1 x 10 inch (25 x 254 mm) with Plexiglas covers**>>.
 - f. Galvanized Steel Finish: PowderGuard Max powder coat; << **white; tan; gray; or _____**>> color.
 - g. Aluminum Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; _____ color**>>.
 - h. Stainless Steel Finish: << **No.2B mill; or No.4 satin**>>.
13. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or Stainless steel**>>.
 - a. Profile: Double angle.
 - b. Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; Stainless No.4 satin; or Stainless No.2B mill**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
14. Weatherstripping and Seals:
 - a. Bottom Sensing Edge Seal: Included.
 - b. Interior Guide Seal: << **Required; or Not required**>>.
 - c. Exterior Guide Seal: << **Required; or Not required**>>.
 - d. Lintel Brush Seal: << **Required; or Not required**>>.
15. Side Guides, Channels: Constructed of steel with members fully bolted together.
 - a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
16. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: << **Match curtain; Galvanized, hot dipped; PowderGuard Premium powder coat; black color; PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; or PowderGuard Zinc powder coat; _____ color**>>.
17. Door Roll: Directly driven, springless roll constructed of steel tube with integral shafts, keyed on drive end and supported by self-aligning, greaseable, sealed bearings. Counterbalance device not required.

18. Hood: << **Not required**; 24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel); 24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel); or Aluminum>>.
 - a. Finish: << **Match curtain**; **Standard polyester base coat; gray color**; **Standard polyester base coat; tan color**; **Standard polyester base coat; white color**; **Galvanized G90 (Z275)**; **Gray-primed galvanized G90 (Z275)**; **PowderGuard Premium powder coat; _____ color**; **PowderGuard Textured powder coat; _____ color**; **Clear anodized**; **Black anodized**; **Bronze anodized**; or **Mill finish**>>.
19. Motor Operation: Direct drive, integrated gear motor and brake assembly; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second. Operator and drive assembly is factory preassembled and provided with wiring harnesses needed direct from factory.
 - a. Manual Override: Hoist.
 - b. Timer to Close: Time-delay self-close timer and non-resettable cycle counter.
 - c. Operation Supply Voltage: << **208V 1-phase 60Hz**; **208V 3-phase 60Hz**; **575V 3-phase 60Hz**; **220V 1-phase 50Hz**; **230V 3-phase 50Hz**; or **460V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination**; or **Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button**; **key switch**; **pull cord**; **loop detector**; **motion detector**; **treadle switch**; and **radio control**>>.
 - f. Motor Mounting: Shaft mount.
 - g. Obstruction Safety Detection:
 - 1) Primary, Monitored: Wireless reversing safety edge.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes**; **Dual reflective photo-eyes**; **Thru-beam photo-eyes**; or **Dual thru-beam photo-eyes**>>.
 - h. Control Panel: Provide electronic variable frequency drive controller with microprocessor self-diagnostics. LCD readout indicates door action, alarm conditions, and fault conditions. Enclosure is NEMA 4X-rated. Control system is UL-certified. Junction box is IP67-rated.

B. Overhead Door™ Brand; Model 621 RapidSlat.

1. Slats: Interlocking, roll-formed, galvanized steel slats.
2. Width: << _____ >>.
3. Height: << _____ >>.
4. Mounting: Surface mounted on side indicated on drawings.

5. Opening Speed: Door to operate at variable speed up to << **24 inches (610 mm)**>> per second.
6. Closing Speed: Door to operate at variable speed up to << **12 inches (305 mm)**>> per second.
7. Operation Cycles: Capable of operating for minimum one million cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Limited Warranty: For 5 years or one million cycles, whichever comes first.

9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<ASTM E330/E330M>>.
10. Wind Load: Not required.

11. Impact Rating: Available with certification for large missile impact resistance (<<FBC TAS 201>> and <<FBC TAS 202>>), with design pressure of << _____ psf (_____ Pa)>> at << _____ feet (_____ mm)>> wide. This design is approved by<< **the Florida Building Commission; Miami Dade NOA; Texas Department of Insurance; or None - N/A**>>, << FL # _____; TDI # _____; _____; or None - N/A>>.

12. Curtain Material:
 - a. Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm);** or _____ gauge, _____ inch (_____ mm)>>.
 - b. Aluminum: << **0.050 inch (1.27 mm);** or _____ inch (_____ mm)>>.
 - c. Stainless Steel: << **20 gauge, 0.0359 inch (0.91 mm);** or _____ gauge, _____ inch (_____ mm)>>.

 - d. Slat Profile: << **F-265; or FE-265**>>.

 - e. Vision Lites: << **Not required; 5/8 by 3 inch (16 by 76 mm) with Plexiglas covers; or 1 by 10 inch (25 by 254 mm) with Plexiglas covers**>>.

- f. Galvanized Steel Finish: PowderGuard Max powder coat; << **white; tan; gray; or _____**>> color.
- g. Aluminum Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; color: _____**>>.
- h. Stainless Steel Finish: << **No.2B mill; or No.4 satin**>>.
- 13. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or Stainless steel**>>.
 - a. Profile: Double angle.
 - b. Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; Galvanized, hot dipped; PowderGuard Premium powder coat; PowderGuard Textured powder coat; PowderGuard Zinc powder coat; Stainless No.4 satin; or Stainless No.2B mill**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
- 14. Weatherstripping and Seals:
 - a. Bottom Sensing Edge Seal: Included.
 - b. Interior Guide Seal: << **Required; or Not required**>>.
 - c. Exterior Guide Seal: << **Required; or Not required**>>.
 - d. Internal Hood Seal: Included.
 - e. Lintel Brush Seal: << **Required; or Not required**>>.
- 15. Side Guides, Channels: Constructed of steel with members fully bolted together.
 - a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
- 16. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: << **Match curtain; Hot-dip galvanized; PowderGuard Premium powder coat; black color; PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; or PowderGuard Zinc powder coat; _____ color**>>.
- 17. Door Roll: Directly driven, springless roll constructed of steel tube with integral shafts, keyed on drive end and supported by self-aligning, greaseable, sealed bearings. Counterbalance device not required.
- 18. Hood: << **Not required; 24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel); 24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel); or Aluminum**>>.
 - a. Finish: << **Match curtain; Standard polyester base coat; gray color; Standard polyester base coat; tan color; Standard polyester base coat; white color; Galvanized G90 (Z275); Gray-primed galvanized G90 (Z275); PowderGuard Premium powder coat; _____**>>.

- color; PowderGuard Textured powder coat; _____ color; Clear anodized; Black anodized; Bronze anodized; or Mill finish>>.**
19. Motor Operation: Direct drive, integrated gear motor and brake assembly; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second. Operator and drive assembly is factory preassembled and provided with wiring harnesses needed direct from factory.
 - a. Manual Override: Hoist.
 - b. Timer to Close: Time-delay self-close timer and non-resettable cycle counter.
 - c. Operation Supply Voltage: << **208V 1-phase 60Hz; 208V 3-phase 60Hz; 575V 3-phase 60Hz; 220V 1-phase 50Hz; 230V 3-phase 50Hz; or 460V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
 - f. Motor Mounting: Shaft mount.

 - g. Obstruction Safety Detection:
 - 1) Primary, Monitored: Wireless reversing safety edge.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes; Dual reflective photo-eyes; Thru-beam photo-eyes; or Dual thru-beam photo-eyes**>>.
 - h. Control Panel: Provide electronic variable frequency drive controller with microprocessor self-diagnostics. LCD readout indicates door action, alarm conditions, and fault conditions. Enclosure is NEMA 4X-rated. Control system is UL-certified. Junction box is IP67-rated.
- C. Overhead Door™ Brand; Model 626 RapidSlat.
1. Slats: Interlocking, roll-formed, galvanized steel slats.

 2. Width: << _____ >>.

 3. Height: << _____ >>.
 4. Mounting: Surface mounted on side indicated on drawings.
 5. Opening Speed: Door to operate at variable speed of up to << **24 inches (610 mm)**>> per second.
 6. Closing Speed: Door to operate at variable speed of up to << **12 inches (305 mm)**>> per second.

7. Operation Cycles: Capable of operating for minimum one million cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
8. Available Warranty:
 - a. Limited Warranty: For 5 years or one million cycles, whichever comes first.
9. Wind Load: Design door assembly to withstand ultimate static pressure load of << **20 psf (0.96 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); 41 psf (1.96 kPa); 50 psf (2.39 kPa); 57 to 130 psf (2.73 to 6.22 kPa); 65 psf (3.11 kPa); or 68.9 psf (3.29 kPa)**>> in accordance with <<ASTM E330/E330M>>.
10. Wind Load: Not required.
11. Impact Rating: Available with certification for large missile impact resistance (<<FBC TAS 201>> and <<FBC TAS 202>>), with design pressure of << _____ psf (_____ Pa)>> at << _____ feet (_____ mm)>> wide. This design is approved by << **the Florida Building Commission; Miami Dade NOA; Texas Department of Insurance; or None - N/A**>>, << FL # _____; TDI # _____; _____; or None - N/A>>.
12. Curtain Material:
 - a. Galvanized Steel: << **18 gauge, 0.0516 inch (1.31 mm); 20 gauge, 0.0396 inch (1.01 mm); 22 gauge, 0.0336 inch (0.86 mm); 24 gauge, 0.278 inch (0.63 mm); or _____ gauge, _____ inch (_____ mm)**>>.
 - b. Aluminum: << **0.040 inch (1.02 mm); or _____ inch (_____ mm)**>>.
 - c. Stainless Steel: << **20 gauge, 0.0359 inch (0.91 mm); 22 gauge, 0.0299 inch (0.76 mm); or _____ gauge, _____ inch (_____ mm)**>>.
 - d. Slat Profile: F-265i.
 - e. Slat R-Value: << **R-value (RSI-value): 7.7 (1.35)**>>.
 - f. Through Curtain Sound Rating: STC-28 in accordance with <<ASTM E90>>; STC-30 minimum, with hertz noise generator.
 - g. Installed System Sound Rating: STC-21 in accordance with <<ASTM E90>>.
 - h. U-Factor: 0.91 HFRC test report; maximum U-factor of maximum 1.00.
 - i. Vision Lites: << **Not required; 5/8 by 3 inches (16 by 76 mm) with Plexiglass covers; or 1 by 10 inches (25 by 254 mm) with Plexiglass covers**>>.
 - j. Galvanized Steel Finish: PowderGuard Max powder coat; << **white; tan; gray; or _____**>> color.
 - k. Aluminum Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; or PowderGuard Premium powder coat; _____ color**>>.
 - l. Stainless Steel Finish: << **No.2B mill; or No.4 satin**>>.
13. Bottom Bar: << **6063-T6 aluminum; Galvanized steel; or Stainless steel**>>.

- a. Profile: Double angle.
 - b. Finish: << **Mill finish; Clear anodized; Black anodized; Bronze anodized; Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
14. Weatherstripping and Seals:
- a. Bottom Sensing Edge Seal: Included.
 - b. Exterior Guide Seal: << **Required; or Not required**>>.
 - c. Interior Guide Seal: << **Required; or Not required**>>.
 - d. Internal Hood Seal: Included.
 - e. Lintel Brush Seal: << **Required; or Not required**>>.
15. Side Guides, Channels: Constructed of steel with members fully bolted together.
- a. Finish: << **Hot-dip galvanized; PowderGuard Premium powder coat; PowderGuard Textured powder coat; or PowderGuard Zinc powder coat**>>.
 - 1) Color: << **Black; Match curtain; or _____**>>.
16. Brackets: Steel to support counterbalance and curtain.
- a. Finish: << **Match curtain; Hot-dip galvanized; PowderGuard Premium powder coat; color: black; PowderGuard Premium powder coat; color: _____; PowderGuard Textured powder coat; color: _____; or PowderGuard Zinc powder coat; color: _____**>>.
17. Door Roll: Directly driven, springless roll constructed of steel tube with integral shafts, keyed on drive end and supported by self-aligning, greaseable, sealed bearings. Counterbalance device not required.
18. Hood: << **Not required; 24 gauge, 0.0278 inch galvanized steel (0.63 mm galvanized steel); 24 gauge, 0.0239 inch stainless steel (0.61 mm stainless steel); or Aluminum**>>.
- a. Finish: << **Match curtain; Standard polyester base coat; gray color; Standard polyester base coat; tan color; Standard polyester base coat; white color; Galvanized G90 (Z275); Gray-primed galvanized G90 (Z275); PowderGuard Premium powder coat; _____ color; PowderGuard Textured powder coat; _____ color; Clear anodized; Black anodized; Bronze anodized; or Mill finish**>>.
19. Motor Operation: Direct drive, integrated gear motor and brake assembly; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second. Operator and drive assembly is factory preassembled and provided with wiring harnesses needed direct from factory.
- a. Manual Override: Hoist.
 - b. Timer to Close: Time-delay self-close timer and non-resettable cycle counter.
 - c. Operation Supply Voltage: << **208V 1-phase 60Hz; 208V 3-phase 60Hz; 575V 3-phase 60Hz; 220V 1-phase 50Hz; 230V 3-phase 50Hz; or 460V 3-phase 50Hz**>>.

- d. Signaling Device: << **Horn and strobe combination**; or **Traffic warning light**>>.
- e. Actuation Device: Provide << **push button**; **key switch**; **pull cord**; **loop detector**; **motion detector**; **treadle switch**; and **radio control**>>.
- f. Motor Mounting: Shaft mount.

- g. Obstruction Safety Detection:
 - 1) Primary, Monitored: Wireless reversing safety edge.
 - 2) Secondary, Non-Monitored: << **Reflective photo-eyes**; **Dual reflective photo-eyes**; **Thru-beam photo-eyes**; or **Dual thru-beam photo-eyes**>>.
- h. Control Panel: Control Panel: Provide electronic variable frequency drive controller with microprocessor self-diagnostics. LCD readout indicates door action, alarm conditions, and fault conditions. Enclosure is NEMA 4X-rated. Control system is UL-certified. Junction box is IP67-rated.

2.04 UPWARD COILING SECURITY SHUTTERS

- A. Overhead Door™ Brand; Model 653.
 - 1. Slats: Interlocking, extruded aluminum slats.

 - 2. Width: << _____>>.

 - 3. Height: << _____>>.
 - 4. Mounting: << **Surface-mounted on side indicated on drawings**; or **Between jamb**>>.
 - 5. Opening Speed: Door to operate at variable speed up to << **8 inches (203 mm)**>> per second.
 - 6. Closing Speed: Door to operate at variable speed up to << **12 inches (305 mm)**>> per second.
 - 7. Curtain Material: << **0.050-inch (1.27 mm)**>> thick aluminum.
 - a. Fenestrated Slats: << **Not required**; **Open fenestration**; **1-by-1-inch (25.4 by 25.4 mm) uniformly spaced openings over full curtain**; **Partially open fenestration**; **1-by-1-inch (25.4 by 25.4 mm) uniformly spaced openings**. **Height of fenestrated curtain segment as indicated on drawings**; **Perforated slats**; full curtain; or **Perforated slats**; partial curtain. **Height of perforated curtain segment as indicated on drawings**>>.
 - b. Aluminum Finish: << **White**; **Almond**; **Silver powder coat to match look of clear anodized aluminum**; **Bronze powder coat to match look of bronze anodized**; or **PowderGuard Premium powder coat**; _____ **color**>>.
 - 8. Bottom Bar: 6063-T6 aluminum.
 - a. Profile: << **Compact extruded**; or **Extruded tube**>>.

- b. Finish: Match curtain.
9. Locking Options to Include: << **None**; **Slide lock**; **Cylinder**; or **Best cylinder**>>.
 - a. Lock Locations: << **Both jambs**; **Left only**; **Right only**; or **Center**>>.
 - b. Lock Access: << **Coil side**; **Opposite coil side**; or **Both sides**>>.
 - c. Interlock micro switch on locking doors with tube motor operation.
 10. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Required.
 11. Side Guides, Channels: Constructed of aluminum extruded channels with continuous PVC wear strips.
 - a. Finish: Match curtain.
 12. Brackets: Galvanized steel to support counterbalance, curtain, and hood.
 - a. Finish: Match curtain.
 13. Counterbalance: Helical torsion spring type, housed in steel tube or pipe barrel and supporting curtain with deflection limited to << **0.03 inch per foot (1:400 mm/sec)**>> of span. Adjustable spring tension required.
 14. Hood: Aluminum. Box sized to match manufacturer's recommendation based on door height. Provide with intermediate support brackets as required on drawings.
 - a. Finish: << **Match curtain**; or **PowderGuard Premium powder coat**; _____ **color**>>.
 15. Manual Operation: << **Push-up**; or **Crank**>>.
16. Motor Operation: Provide UL-listed electric tube motor; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second.
 - a. Manual Override: << **Not required**; or **Crank**>>.
 - b. Operation Supply Voltage: << **110V**; or **240V**>>.
 - c. Actuation: Double throw, hard-wired wall switch.
 - d. Motor Mounting: Within counterbalance tube.

2.05 UPWARD COILING SHEET DOORS

- A. Overhead Door™ Brand; Model 770SS sheet door.

1. Width: << _____ >>.
2. Height: << _____ >>.
3. Mounting: Surface mounted on side indicated on drawings.
4. Opening Speed: Door to operate at variable speed up to << **8 inches (203 mm)**>> per second.

5. Closing Speed: Door to operate at variable speed up to << **12 inches (305 mm)**>> per second.
 6. Operation Cycles: Capable of operating for minimum 10,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
 7. Curtain: Roll-formed, << **26 gauge, 0.217 inch (0.55 mm)**>>, << **G30 (Z90)**>> galvanized steel sheet in accordance with <<**ASTM A653/A653M**>>, SS Grade 80. Sections interlocked and permanently seamed together to form continuous curtain. Provided with PVC edge strip stapled on edge of exterior side to minimize steel-to-steel contact, enhance door operation, and minimize curtain nesting and scratching.
 - a. Finish: Rust-inhibitive roll coating process, including << **0.2 mil (0.0051 mm)**>> baked-on prime paint and << **0.6 mil (0.015 mm)**>> baked-on polyester top coat.
 - 1) Color: << **White; Glossy White; Silhouette Gray; Buckskin; Desert Tan; Garnet Red; Walnut Brown; Polar Blue; Royal Blue; Teal; Dark Teal; Forest Green; Bronze; or Matte black**>>.
 8. Bottom Bar: Extruded aluminum reinforced with << **1-1/2-by-1-1/2-inch (38 by 38 mm)**>> roll-formed steel angle and provided with flexible PVC bulb-type astragal to ensure consistent seal along floor. Extrusion designed to interlock with door curtain.
 - a. Bottom Bar Stops: << **12 gauge, 0.108 inch (2.75 mm)**>> galvanized steel with quick-connect design allowing curtain insertion into universal guide and lock into place with one fastener.
 - b. Finish: Mill finish.
 9. Locking Options to Include: << **None; Slide lock; or Slide lock that accepts cylinder or padlock**>>.
 - a. Lock Locations: << **Both jambs; Left only; or Right only**>> in bottom bar.
 - b. Lock Access: << **Coil side; or Opposite coil side**>>.
 - c. Optional Dual Exterior Slide Bolt Curtain Locks: << **Required; or Not required**>>.
 10. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Included.
 11. Guides: << **1-5/8 inches (41 mm)**>> wide, roll-formed, << **18 gauge, 0.0478 inch (1.21 mm)**>> steel guides with UHMW polypropylene rub strips on each edge. Through-hole design allows easy access from front for fastener attachment to concrete, wood, steel, or masonry jambs. Prepunched to accept quick-connect attachment of headplate and bottom bar stops.
 - a. Finish: Galvanized.
 12. Headplates: << **14 gauge, 0.0747 inch (1.90 mm)**>> steel with steel roller bearings to prevent steel-to-steel contact for improved door operations and extended door shaft life. Quick-connect design for quick assembly to guides.
 - a. Finish: Galvanized.
 13. Counterbalance: Assembly includes stepped design steel rings to ensure tight and uniform curtain wrap, << **3-3/8-inch (86 mm)**>> inside diameter springs, and << **1-5/16-inch (35 mm)**>> diameter shaft with << **0.065-inch (1.65 mm)**>> wall thickness to minimize door deflection.
 14. Manual Operation: Push-up.
- B. Overhead Door™ Brand; Model 780 sheet door.

1. Width: << _____ >>.

2. Height: << _____ >>.
3. Mounting: Surface mounted on side indicated on drawings.
4. Opening Speed: Door to operate at variable speed up to << **8 inches (203 mm)**>> per second.
5. Closing Speed: Door to operate at variable speed up to << **12 inches (305 mm)**>> per second.
6. Operation Cycles: Capable of operating for minimum 10,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
7. Curtain: << **26 gauge, 0.217 inch (0.55 mm)**>> galvanized steel sheets.
 - a. Finish: Standard polyester base coat; << **white; glossy white; silhouette gray; buckskin; desert tan; garnet red; walnut brown; polar blue; royal blue; teal; dark teal; forest green; bronze; or matte black**>> color.
8. Bottom Bar: Extruded aluminum reinforced with << **1-1/2 by 2 inch (38 by 51 mm)**>> roll-formed steel angle and provided with flexible PVC bulb-type astragal to ensure consistent seal along floor. Extrusion designed to interlock with door curtain.
 - a. Bottom Bar Stops: << **12 gauge, 0.108 inch (2.75 mm)**>> galvanized steel with quick-connect design allowing curtain insertion into universal guide and lock into place with one fastener.
 - b. Finish: Mill finish.
9. Locking Options to Include: << **None; Slide lock; or Slide lock that accepts cylinder or padlock**>>.
 - a. Lock Locations: << **Both jambs; Left only; or Right only**>> in bottom bar.
 - b. Lock Access: << **Coil side; or Opposite coil side**>>.
 - c. Optional Dual Exterior Slide Bolt Curtain Locks: << **Required; or Not required**>>.
10. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Included.
11. Guides: << **3 inches (76 mm)**>> wide, roll-formed, << **18 gauge, 0.0478 inch (1.21 mm)**>> steel guides with UHMW polypropylene rub strips on each edge. Through-hole design allows easy access from front for fastener attachment to concrete, wood, steel, or masonry jambs. Prepunched to accept quick-connect attachment of bottom bar stops.
 - a. Finish: Galvanized.
12. Headplates: << **Heavy-duty thick welded steel; Stamped steel; or _____**>> mounted directly to wall to support door shaft and ensure smooth door roll operation.
 - a. Finish: Galvanized.
13. Counterbalance: Assembly includes stepped design steel rings with steel roller bearings to ensure tight, uniform curtain wrap, enhanced door operation, and

cycle life; factory-lubricated << **3-3/8-inch (86 mm)**>> inside diameter springs; and << **1-5/16-inch (35 mm)**>> diameter shaft with << **0.065-inch (1.65 mm)**>> wall thickness to minimize door deflection. Design allows quick assembly of non-handed chain hoist on either side of door.

14. Manual Operation: << **Push-up; or Chain hoist**>>.
 15. Motor Operation: Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second.
 - a. Manual Override: << **Hoist; Hoist and jackshaft release; or Jackshaft release**>>.
 - b. Timer to Close: << **Not required; or Automatic closing controlled by adjustable hold open time delay**>>.
 - c. Operation Supply Voltage: << **115/208/230V 1-phase 60Hz; 208/230/460V 3-phase 60Hz; 575V 3-phase 60Hz; 220V 1-phase 50Hz; 220V 3-phase 50Hz; or 400V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
 - f. Motor Mounting: << **Wall-mounted; or Front of hood**>>, << **right-hand side; or left-hand side**>>.
 - g. Obstruction Safety Detection: Infrared sensor mounted in-plane to door curtain.
 - h. Reversing Safety Edge: << **Not required; Door provided with wireless monitored electric safety edge; or Door provided with wired monitored electric safety edge**>>.
- C. Overhead Door™ Brand; Model 790CW sheet door.

1. Width: << _____>>.
2. Height: << _____>>.
3. Mounting: Surface mounted on side indicated on drawings.
4. Opening Speed: Door to operate at variable speed up to << **8 inches (203 mm)**>> per second.
5. Closing Speed: Door to operate at variable speed up to << **12 inches (305 mm)**>> per second.
6. Operation Cycles: Capable of operating for minimum 10,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.

7. Wind Load: Design door assembly to withstand ultimate static pressure load of << **22 psf (1.05 kPa); 26 psf (1.25 kPa); 31 psf (1.48 kPa); 36 psf (1.72 kPa); or 41 psf (1.96 kPa)**>> in accordance with <<ASTM E330/E330M>>.
8. Curtain: Roll-formed, << **26 gauge, 0.217 inch (0.55 mm)**>>, << **G30 (Z90)**>> galvanized steel sheet in accordance with <<ASTM A653/A653M>>, SS Grade 80. Sections interlocked and permanently seamed together to form continuous curtain. Provide with PVC edge strip stapled on edge of exterior side to minimize steel-to-steel contact, enhance door operation, and minimize curtain nesting and scratching.
 - a. Wind Locks: 9-gauge ductile iron wind locks on each edge of curtain, spaced in accordance with door size and wind load requirements.
 - b. Finish: Rust-inhibitive roll coating process including << **0.2 mil (0.0051 mm)**>> baked-on prime paint and << **0.6 mil (0.015 mm)**>> baked-on polyester top coat.
 - c. Color: << **White; Glossy White; Silhouette Gray; Buckskin; Desert Tan; Garnet Red; Walnut Brown; Polar Blue; Royal Blue; Teal; Dark Teal; Forest Green; Bronze; or Matte black**>>.
9. Bottom Bar: Extruded aluminum reinforced with << **1-1/2-by-2-inch (38 by 51 mm)**>> roll-formed steel angle; provide with flexible, PVC bulb-type astragal, ensuring consistent seal along floor. Extrusion designed to interlock with door curtain.
 - a. Bottom Bar Stops: << **12 gauge, 0.108 inch (2.75 mm)**>> galvanized steel with quick-connect design, allowing curtain insertion into universal guide and lock into place with one fastener.
 - b. Finish: Mill finish.
10. Locking Options to Include: << **None; Slide lock; or Slide lock that accepts cylinder or padlock**>>.
 - a. Lock Locations: << **Both jambs; Left only; or Right only**>> in bottom bar.
 - b. Lock Access: << **Coil side; or Opposite coil side**>>.
 - c. Optional Dual Exterior Slide Bolt Curtain Locks: << **Required; or Not required**>>.
11. Weatherstripping and Seals:
 - a. Bottom Seal Astragal: Included.
12. Guides: << **3 inches (76 mm)**>> wide, roll-formed, << **14 gauge, 0.0747 inch (1.90 mm)**>>, Grade 50 steel guides with UHMW polypropylene rub strips on each edge. Through-hole design allows easy access from front for fastener attachment to concrete, wood, steel, or masonry jambs. Prepunched to accept quick-connect attachment of bottom bar stops.
 - a. Finish: Galvanized.
13. Headplates: << **Stamped, 11-gauge steel; or Heavy-duty, 0.187-inch (4.76 mm) thick welded steel**>> mounted directly to wall to support door shaft and ensure smooth door roll operation.
 - a. Finish: Galvanized.
14. Counterbalance: Assembly includes stepped design steel rings with steel roller bearings to ensure tight, uniform curtain wrap, enhanced door operation, and cycle life; factory-lubricated, << **3-3/8-inch (86 mm)**>> inside diameter springs;

and << **1-5/16-inch (35 mm)**>> diameter shaft with << **0.065-inch (1.65 mm)**>> wall thickness to minimize door deflection. Design allows quick assembly of non-handed chain hoist on either side of door.

15. Manual Operation: << **Push-up; or Chain hoist**>>.
16. Motor Operation: Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum << **8 inches (203 mm)**>>, maximum << **1 foot (305 mm)**>> per second.
 - a. Manual Override: << **Hoist; Hoist and jackshaft release; or Jackshaft release**>>.
 - b. Timer to Close: << **Not required; or Automatic closing controlled by adjustable hold open time delay**>>.
 - c. Operation Supply Voltage: << **115/208/230V 1-phase 60Hz; 208/230/460V 3-phase 60Hz; 575V 3-phase 60Hz; 220V 1-phase 50Hz; 220V 3-phase 50Hz; or 400V 3-phase 50Hz**>>.
 - d. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - e. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
 - f. Motor Mounting: << **Wall-mounted; or Front of hood**>>, << **right-hand side; or left-hand side**>>.
 - g. Obstruction Safety Detection: Infrared sensor mounted in-plane to door curtain.
 - h. Reversing Safety Edge: << **Not required; Door provided with wireless monitored electric safety edge; or Door provided with wired monitored electric safety edge**>>.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify << existing conditions; and _____>> meet manufacturer's requirements before starting work.
- B. Verify opening sizes, tolerances and conditions are acceptable.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's written instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building structure without distortion or stress.
- C. Securely and rigidly brace components suspended from structure.<< Secure guides to structural members only.; _____ .; or None - N/A>>
- D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- E. Coordinate installation of electrical service; see Section 260583.
- F. Install enclosure and perimeter trim.

3.03 TOLERANCES

- A. Maintain dimensional tolerances and alignment with adjacent work.
- B. Maximum Variation from Plumb: << 1/16 inch (1.6 mm); or ____ inch (____ mm)>>.
- C. Maximum Variation from Level: << 1/16 inch (1.6 mm); or ____ inch (____ mm)>>.
- D. Longitudinal or Diagonal Warp: Plus or minus << 1/8 inch per 10 feet (3.2 mm per 3 m); or ____ inch per 10 feet (____ mm per 3 m)>>.

3.04 ADJUSTING

- A. Adjust operating assemblies for smooth and noiseless operation.

3.05 CLEANING

- A. See Section 017000 - Execution and Closeout Requirements for additional requirements.
- B. Clean installed components.
- C. Remove labels and visible markings.

3.06 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch up damaged finishes after Substantial Completion.

END OF SECTION