

**SECTION 08 33 23.13**  
**OVERHEAD RAPID COILING DOORS**

**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. Section includes high-speed fabric overhead coiling doors, activation devices and accessories.

**1.02 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination: Verify the work of this Section with project conditions for compliance with Contract Documents. Coordinate overhead rapid coiling door's operating controls with activation devices and specified accessories.

**1.03 ACTION SUBMITTALS**

- A. See Section 01 30 00 – Administrative Requirements for submittal procedures.
- B. Product Data: For each type and size of overhead rapid coiling door, activation device, and accessory, include detailed information of fabricated materials and finishes, wind load resistance, and electrical component connections.
- C. Shop Drawings: Indicate pertinent dimensioning, component profiles, and anchorage locations for verification of proper fit and mounting. Include Setting Drawings and templates, with locations for built-in or embedded anchoring devices, a summary of forces, loads and weights on walls and jambs and the Manufacturer's Installation & Maintenance Manual – English.
- D. Samples: Upon request of the Architect or owner's representative, submit 1 set(s) fabric door panel material for each color option selected. Sample sizes to be no smaller than 3" (76mm) x 3" (76mm).
- E. Sustainable Design Submittals: Upon request, submit product qualification materials from manufacturer in accordance with Green Building Certification Programs required documentation.

**1.04 QUALITY ASSURANCE**

- A. Regulatory Agency Approvals: Items requiring electrical connection in this section shall be listed and classified by UL/ULC or testing firm acceptable to Authorities Having Jurisdiction as suitable for purpose specified.
- B. Qualifications:
  - 1. Suppliers: Obtain overhead rapid coiling doors, including all components and accessories though one source. Use only new doors, components, and accessories for this project.
  - 2. Installers: Engage companies specializing in performing work of the type specified in this section and authorized by manufacturer.

**1.05 DELIVERY, STORAGE AND HANDLING**

- A. Delivery and Acceptance Requirements: Verify completeness of shipment upon receipt of materials. Confirm delivery of all component parts with original shipping manifest.
- B. Storage and Handling Requirements: Store all materials in dry locations with adequate ventilation, free from dust, water, and available for inspection and handling.

**1.06 WARRANTY**

- A. See Section 01 78 00 – Closeout Submittals for additional warranty requirements.
- B. Warranty Documentation: Provide a final executed warranty document as accepted by Owner; include in Warranties and Bonds Manual.
- C. Warranty Period: Period of warranty begins at date of shipment of the product to the customer. The motor is guaranteed against defects in materials and workmanship for a period of 5 years (excludes anti-fallback device). All other mechanical and electrical components are warranted against defects for a period of 2 years. Fabric panels are warranted against defects for a period of 2 years. During the warranty period, labor is covered for the first year after installation is completed.

## PART 2 – PRODUCTS

### 2.01 MANUFACTURERS

- A. Hörmann High Performance Doors.  
117 Starpointe Boulevard, Burgettstown, Pennsylvania 15021-9506  
Toll Free: (800)-365-3667 | Phone: 724-385-9150  
Website: [www.hormann.us](http://www.hormann.us) | Contact Email Address: [info2@hormann.us](mailto:info2@hormann.us)
- B. Products Options: Provide the following as to be considered the basis of design:
1. High Performance Door Model: Speed-Master® Series – Model 1600 L<sup>19</sup>.
- C. Substitution Limitations:
1. No substitutions or exceptions shall be approved.

### 2.02 PERFORMANCE REQUIREMENTS

- A. Structural Performance Requirements: Provide door assemblies capable of withstanding gravity loads and stresses without permanent deformation of the door components.
1. Resistance to Wind Load: Uniform pressure (velocity pressure) acting inward (pressure) and outward (suction) of wind acting normal to plane of wall as determined in accordance with ASTM E330-02, FBC-TAS 202-94, or ANSI/DASMA 108-2012, Exposure B:
    - a. Door widths up to 14'-0" (4.26 m): 9.3 psf. (445 Pa), Wind Load Class 2, 61 mph (98 km/h)
    - b. Door widths up to 16'-0" (4.87 m): 6.2 psf. (300 Pa), Wind Load Class 1, 50 mph (81 km/h)
    - c. Door widths up to 17'-0" (5.18 m): 4.0 psf. (192 Pa), Wind Load Class 0, 40 mph (64 km/h)
- B. Operation-Speed Requirements: Open cycle performing up-to 60 in./sec. (1.52 m/s) and close cycle performing at up-to 30 in./sec. (0.76 m/s).
- C. Operation-Cycle Requirements: Acting for not less than 1,000,000 total cycles with manufacturer's recommended scheduled maintenance.
- D. Thermal Resistance (R-value) of Door Curtain Material Requirements: No less than R 1.73 (ft<sup>2</sup> x °F x h)/BTU for solid panels.
- E. Heat Transfer Coefficient (U-value) Requirements: No greater than U 3.30 W/(m<sup>2</sup> x K) for complete door assembly.
- F. Solar Heat Gain Coefficient (G-value) of Door Curtain Vision Material Requirements: No less than G 0.81 for transparent panels.
- G. Visible Transmittance (T<sub>vis</sub>) of Door Curtain Vision Material Requirements: No less than T<sub>vis</sub> 0.83 for transparent panels.
- H. Acoustic Attenuation (STC) Requirements: No less than STC 21, R<sub>w</sub> 19 dB for complete door assembly.

### 2.03 OPERATION

- A. Electric Door Operator (Drive System): 2 Horsepower variable speed motor capable of gradual acceleration and braking.
- B. Door Control Devices: One (manufacturer supplied) Control Panel per unit, required.
1. **(Standard Equipment)** Control Panel: Three-Phase Model: Hörmann AK500FUE-1 Smart Start™ NXT with Plug & Play wiring. Housing (W x H x D): 11-5/8" x 5-3/4" x 8-1/8" (295 x 400 x 208 mm). NEMA Type 4X / IP66 compliant, UL/cUL listed. Supply Voltage (from Electrical Disconnect): 3-Phase, 208 vAC to 575 vAC, 60 Hz, 20 Amp Class CC fuse. Control Panel Weight: 16 lbs. (7.25 kg).
    - a. **(Standard Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color RAL 7035 Light Grey, all surfaces.
    - b. **(Optional Finish)** Finish: 316 Stainless Steel, polished, all surfaces.
  2. **(Optional Equipment)** Control Panel: Heated Three-Phase Model: Hörmann XL49819 Smart Start™ NXT with Plug & Play wiring. Housing (W x H x D): 15-3/4" x 23-5/8" x 7-7/8" (400 x 600 x 200 mm). NEMA Type 4X / IP66 compliant, UL/cUL listed. Supply Voltage (from Electrical Disconnect): 3-Phase, 208 vAC to 575 vAC, 60 Hz, 20 Amp Class CC fuse. Control Panel Weight: 16 lbs. (7.25 kg).
    - a. **(Standard Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color RAL 7035 Light Grey, all surfaces.
    - b. **(Optional Finish)** Finish: 316 Stainless Steel, polished, all surfaces.
  3. **(Optional Equipment – Up-to 10ft x 10ft Doors Only)** Control Panel: UL/CUL Single-Phase Model: Hörmann AK500FUE-1 Smart Start™ NXT with Plug & Play wiring. Housing (W x H x D): 11-5/8" x 5-3/4" x 8-1/8" (295 x 400 x 208 mm). Polyester powder coat paint, baked-on steel, Color RAL 7035 Light Grey, all surfaces. NEMA Type 4X / IP66 compliant, UL/cUL listed. Supply Voltage (from Electrical Disconnect): 1-Phase, 230 vAC, 60 Hz, 20 Amp Class CC fuse. Control Panel Weight: 16 lbs. (7.25 kg).
  4. **(Optional Equipment – Up-to 10ft x 10ft Doors Only)** Control Panel: Non-UL/CUL Single-Phase Model: Hörmann BK150FUE-1 Smart Start™ NXT with Plug & Play wiring. Housing (W x H x D): 11-7/8" x 19-3/4" x 7-7/8" (300 x 500 x 200 mm). ABS thermoplastic, Color RAL 7015 Slate Grey, all surfaces. NEMA Type 3 / IP54 compliant, (not UL listed). Supply Voltage (from Electrical Disconnect): 1-Phase, 230 vAC, 60 Hz, 20 Amp Class CC fuse. Control Panel Weight: 16 lbs. (7.25 kg).

- C. Activation Devices: Provide door activations as noted on Door and Hardware Schedules including locations, quantities and types and in coordination with Section 08 71 13 – Automatic Door Operators.
  - 1. Manufacturer Recommended Door Activation Device: BEA, Inc.: LZR®-WIDESCAN, Motion, Presence & Safety Sensor. Quantity: Two (2). Mounting Extension Bracket. Quantity: One (1).
  - 2. **(Optional Equipment)** Other Door Activation Devices: Triple Push Button Control: MMTTC, Inc.: 3BXL, NEMA 4 Exterior Three-button with Lockout - Surface Mounted Control Station. Integrated keyed lockout. NEMA Type 4 rated. Triangular button pattern configuration.
- D. Emergency Operation / Disconnect Device: Provide one Electrical Disconnect Device (switch) (not supplied by manufacturer) for each overhead rapid coiling door installed. Emergency manual operation via Chain Hoist with Sprocket-wheel and pull cord power disconnect to the motor. Hand crank operation not accepted.
  - 1. **(Optional Equipment – Up-to 10ft x 10ft Doors Only)** Emergency Powered Operation Feature: (Non-UL, 1-Phase power only) Uninterruptible Power Supply (UPS) Battery Backup Device. Hörmann: BK-USV Emergency Opening.

## 2.04 MATERIALS

- A. Top Assembly Components:
  - 1. Roll Tube: 6-inch (153.0 mm) diameter hollow barrel Roll Tube fabricated of high strength steel with a minimum wall thickness of 0.188-inches (4.8 mm).
  - 2. Support and Bearing Mechanisms: Top Plates (1 Pair): Provide one 1/8" (3.175 mm) Top Plate per each jamb. Fitted with heavy-duty self-aligning bearings and cast -iron housings. Motor Bracket: One motor mounting bracket at the operator side of the door shall be provided.
  - 3. Top Assembly Finishes:
    - a. **(Standard Finish)** Finish: Galvanized steel, zinc, class G90 (Roll Tube, Support and Bearing Mechanisms).
    - b. **(Optional Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color selected from manufacturer's standard color range, RAL Classic Color System, (Roll Tube, Support and Bearing Mechanisms).
- B. Guide Tracks: Fabricated jamb guides constructed with Manufacturer's standard heavy-duty materials arranged with a continuous, vertical oriented, one-piece design and removable front covers to meet specified performance criteria; allowing door panels to operate smoothly.
  - 1. Guide Tracks Finish:
    - a. **(Standard Finish)** Finish: Galvanized steel, zinc, class G90 (Tracks & Removable Front Covers).
    - b. **(Optional Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color selected from manufacturer's standard color range, RAL Classic Color System, (Tracks & Removable Front Covers).
- C. Door Curtain Seals: Twin black, PVC brush seals at throat of the guide tracks, with one Lintel seal for the full width of the top of the door, vinyl-loop style. Color: Black. Bottoms Panel: Vinyl fabric field serviceable loop seal with close fit for uneven thresholds and floors. Color: Safety Yellow.
- D. Entrapment Protection Equipment: In-line Light Curtain System installed within Guide Tracks in compliance with UL 325 Standard for Safety, Door, Drapery, Gate, Louver, and Window Operators and Systems. Photoelectric sensors and electric reversing edges shall not be accepted as primary entrapment protection equipment.
- E. Door Curtain Panels: Refer to Drawings for intended panel configurations, types, and options. Product Door Panels to consist of heavy-duty materials, designed to withstand wind loading indicated, in a continuous length for width of each door opening (without splices). Lighter weight, single ply, polyurethane, or rubber panels not accepted.
  - Primary Panel Type: Solid Panel(s): 3.0 mm 'Bulldog XT' reinforced vinyl sheet(s) joined at top and bottom edges by two-piece aluminum hinges that mechanically retain panel fabric.
    - a. **(Available Panel Fabric Colors)** Panel Fabric Color: [RAL 2004 Pure Orange] [RAL 5010 Gentian Blue] [RAL 7038 Agate Grey] [RAL 9005 Jet Black].
  - 2. **(Optional Panel Type)** Vision Panel(s): (Configure in door curtain as indicated on Drawings). 4.0 mm Transparent PVC sheet(s) joined at top and bottom edges by two-piece aluminum hinges that mechanically retain panel fabric. Window sections to be full width of opening and of appropriate height from floor to accommodate visibility for both pedestrian and vehicular traffic.
  - 3. **(Optional Panel Type)** Ventilation Screen Panel(s): Sectional design using a rectangular vinyl coated woven fabric joined at top and bottom edges by two-piece aluminum hinges that mechanically retain panel fabric. Window sections to be full width of opening and of appropriate height from floor to accommodate visibility for both pedestrian and vehicular traffic.
    - a. **(Available Screen Panel Colors)** Screen Panel Color: [RAL 2004 Pure Orange] [RAL 5010 Gentian Blue] [RAL 7038 Agate Grey] [RAL 9005 Jet Black].
- F. Other Door Curtain Components:
  - 1. Panel Hinges: Two continuous interlocking clear anodized, extruded aluminum components, spanning the width of the door. Panel Hinges may include galvanized Windlock retainers with nylon rollers, secured to Panel Hinges with stainless steel fasteners. Windlocks to meet exterior-duty or heavy negative pressure applications within lateral deflection tolerances and are not capable of break-away functioning.
  - 2. Bottom Bar Profile: Provide bottom bar profile consisting of flat-faced, hollow extruded aluminum panel, clear anodized sections. Must include Manufacturer's break away anti-crash construction (one per each end of the bottom profile), plastic slide assemblies with internal butterfly switch (radio transmitter) which travels inside each Guide Track for impact detection. Bottom bar profile includes a replaceable, self-adjusting, continuous, compressible gasket of flexible EPDM weatherproofing loop. Do not provide fail-safe type automatic reversing

edge mechanism in bottom profile. Sloped Bottom Profiles: Additional entrapment protection safety features are required (Photoelectric Sensor).

- G. Door Curtain Counterbalancing: Products shall not require counterbalancing or springs to operate. No exceptions considered.

## 2.05 FABRICATION

- A. Factory Production: Do not release doors for fabrication until all specified submittal materials have been reviewed, processed, and returned by the Architect as acceptable.
- B. Safety Labeling: Affix 'High Performance Door Warning Label' to one guide track vertically at a readable height, (5-feet) (1.5 m) above the bottom of track. Use only Door and Access Systems Manufacturers' Association, (DASMA) created warning labels.

## 2.06 FINISHES

- A. Appearance of Finished Work: All components as provided, of overhead rapid coiling doors shall be factory finished. Noticeable variations of finish quality in the same piece are not acceptable.
- B. Finishing System: Optional Color Finishes: Guide Tracks, Brackets, and Hood Enclosures: include baked-on polyester powder coat paint. Color as selected from manufacturer's standard color range, RAL Classic color system.
1. Door Panels, (Solid and Screen Types): Color as selected by Architect from standard range.

## 2.07 ACCESSORIES

- A. General: Refer to Drawings including Door Schedules for basis of design for accessories, intended configurations, quantities, types, options, and remarks.
- B. **(Optional Equipment)** Hood (Roll Tube and Motor Enclosure): Form to entirely enclose coiled curtain panels and operating mechanism at door opening head and acting as entrapment protection and/or dust guard. Fabricate Hoods of hot-dipped galvanized G90 (0.9 oz./ft<sup>2</sup>) steel sheet. White vinyl fabric seals provided at Hood perimeter, standard. Coordinate finishes, including non-standard paint color selections for the Hood with other door component finishes, as approved by the Architect prior to fabrication.
1. Hood Material Finish:
- a. **(Standard Finish)** Finish: Galvanized steel, zinc, class G90 (Hood).
- b. **(Optional Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color selected from manufacturer's standard color range, RAL Classic Color System, (Hood).
- C. **(Optional Equipment)** Manufacturer Recommended: LED Lite-Advance System: Hörmann: Door operation indicating LED light strip safety system. Quantity: One (1) set. Provide flat retainer profiles for installation.

## PART 3 – EXECUTION

### 3.01 EXAMINATION

- A. Verification of Conditions: The doorway opening should be square and plumb, free of intrusion from obstructions, door threshold should be level, and host wall of sound construction and structural integrity in order to achieve the best possible installation.

### 3.02 PREPARATION

- A. Coordinate installation of overhead rapid coiling doors with other trades prior to commencement of work. Repair or replace damaged substrate materials and hold installation procedures until repairs are complete.

### 3.03 INSTALLATION

- A. General: Comply with manufacturer's detailed written instructions for the installation of overhead rapid coiling doors.
1. Installation may require the use of powered platforms, man-lifts, and vehicle-mounted work platforms.
2. High voltage electrical field wiring to be performed by registered electricians experienced, trained and qualified to perform the work.
3. Verify the quality of the mounting structure for suitability to perform as required. Inspect for signs of damage, premature wear.
4. Handle all materials with care. Do not attempt to rectify or reuse damaged parts without express approval from the manufacturer.
- B. Tolerances: the door must be installed in an opening that is the products manufactured finished size.

### 3.04 SYSTEMS STARTUP, ADJUSTING, CLEANING

- A. Initial Operation: Before initial operation of the door and putting into service, check that it is in good working order and free of defects. Confirm Roll Tube Shaft Locking Collars have been properly installed and set screws on bearings are adequately tensioned.

1. Test Run: After installing the door, test the functional safety. Operate the door no fewer than 30 cycles during the testing phase. Verify proper working order of all safety components, including Emergency-Off button.
- B. Starting and Adjusting: After successful completion of Test Run, examine lift system components for proper wear. adjust doors to operate easily, free from warp, twist, or distortion and fitting weather-tight for entire perimeter of opening.
- C. Cleaning and Care: During construction operations Installer shall provide progress cleaning that minimizes accumulation of dirt, dust, snow, or ice particles and standing water. Verify all protective films have been removed from the door prior to final cleaning.
  1. Use warm water together with a neutral, non-abrasive cleaning agent (household detergent, pH value 7, Isopropanol 99.9%).
  2. To clean the surface, use ONLY a soft cloth. Rinse off any dirt, dust, snow, or ice particles with clean water. Never scrape off foreign materials.

### 3.05 CLOSEOUT ACTIVITIES

- A. Demonstration and Training: It shall be the responsibility of the Installer to demonstrate safe operating procedure of the overhead rapid coiling door to the Owner's appointed staff or representative. Start-up Services: Engage a factory-authorized service representative to train and educate facilities maintenance personnel for ongoing management and maintenance of the door.

### 3.06 PROTECTION, MAINTENANCE

- A. Protecting Installed Construction: Overhead rapid coiling doors not yet in use may be vulnerable to impact damage and abrasions. Protect completed work from accidental damage after installation, and prior to acceptance by the Owner. Doors not in use should be set out with safety cones, caution tape and signage noting the door as not operational.
- B. Maintenance Intervals: Consult Product Owner's Manual for proper maintenance and testing requirements. Cleaning the door curtain is recommended as needed for removal of dirty accumulation.

### 3.07 ATTACHMENTS

- A. Hörmann High Performance Doors: Product Data Sheet, Speed-Master® 1600 L<sup>19</sup>.

**END OF SECTION 08 33 23.13**