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SECTION 08 33 23.13

OVERHEAD RAPID COILING DOORS

# PART 1 – GENERAL

## SUMMARY

* 1. Section includes high-speed, rigid overhead coiling doors, activation devices and accessories.

## ADMINISTRATIVE REQUIREMENTS

* 1. 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.

## ACTION SUBMITTALS

* 1. See Section 01 30 00 – Administrative Requirements for submittal procedures.
  2. 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.
  3. 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.
  4. Samples: Upon request of the Architect or owner’s representative, submit 1 set(s) rigid door panel material for review. Sample sizes to be no smaller than 12” (305 mm) long, 4” (100 mm) thick x 20” (400 mm) tall, or full size as appropriate to materials.
  5. Sustainable Design Submittals: Upon request, submit product qualification materials from manufacturer in accordance with Green Building Certification Programs required documentation.

## QUALITY ASSURANCE

* 1. 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.
  2. 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.

## DELIVERY, STORAGE AND HANDLING

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

## WARRANTY

* 1. See Section 01 78 00 – Closeout Submittals for additional warranty requirements.
  2. Warranty Documentation: Provide a final executed warranty document as accepted by Owner; include in Warranties and Bonds Manual.
  3. 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. Insulated panels are warranted against defects for a period of 5 years. During the warranty period, labor is covered for the first year after installation is completed.

# PART 2 – PRODUCTS

1. MANUFACTURERS
   1. Hörmann High Performance Doors.

117 Starpointe Boulevard, Burgettstown, Pennsylvania 15021-9506

Toll Free: (800)-365-3667 | Phone: 724-385-9150

Website: www.hormann.us | Contact Email Address: info2@hormann.us

* 1. Products Options: Provide the following as to be considered the basis of design:
     1. High Performance Door Model: ISO Speed Cold™ Series – High Lift Model H 100.
  2. Substitution Limitations:
     1. No substitutions or exceptions shall be approved.

1. PERFORMANCE REQUIREMENTS
   1. 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:
         1. Door widths up to 16’- 4” (5.0 m): 22.0 psf. (1,051 Pa); Wind Load Class 5; 93 mph (149 km/h).
   2. Operation-Speed Requirements: Open cycle performing up-to 80 in./sec. (2. m/s) and close cycle performing at up-to 20 in./sec. (0.5 m/s).
   3. Operation-Cycle Requirements: Acting for not less than 1,000,000 total cycles.
   4. Headroom Clearance Requirements: Minimum HR = 29-½” (750 mm), and up to a maximum of HR = 18’ - 4” (5.59 m) high.
   5. Thermal Resistance (R-value) of Door Curtain Material Requirements: No less than R 32.0 (ft2 x ℉ x h)/BTU.
   6. Heat Transfer Coefficient (U-value) Requirements: No greater than U 0.57 W/(m2 x K) for complete door assembly.
   7. Resistance to Air Infiltration (Air Leakage) Requirements: No greater than 0.6 CFM/ ft2 (Class 3) at panel joints.
   8. Resistance to Water Penetration Requirements: No less than Class 3, 15 minutes water spray at 55 Pa differential at panel joints.
   9. Acoustic Attenuation (STC) Requirements: No less than STC 26, Rw 22 dB for complete door assembly.
2. OPERATION
   1. Heated Electric Door Operator (Drive System): 480 vAC, variable speed motor with heating element, capable of gradual acceleration and braking.
   2. Heat Package Connecting Lead: Provide secondary connecting unit lead to the door for constant power supply to the heating elements.
   3. Door Control Devices: One (manufacturer supplied) Control Panel per unit, required.
      1. Control Panel: Heated Three-Phase Model: Hörmann XL49819 Smart Start™ NXT with Plug & Play wiring. Housing (W x H x D): 15-¾” x 23-⅝” x 7-⅞” (400 x 600 x 200 mm). NEMA Type 4X / IP66 compliant, UL/cUL listed. Supply Voltage (from Electrical Disconnect): 3-Phase, 208 vAC to 480 vAC, 60 Hz, 16 Amp Class K fuse. Control Panel Weight: 16 lbs. (7.25 kg).

**[SELECT FROM THE FOLLOWING OPTIONAL HEATED CONTROL PANEL FINISHES, DELETE THOSE NOT REQUIRED]**

* + - 1. **(Standard Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color RAL 7035 Light Grey, all surfaces.
      2. **(Optional Finish)** Finish: 316 Stainless Steel, polished, all surfaces.
  1. 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. **[EDIT TO INCLUDE AS REQUIRED]** **(Optional Equipment)** Other Door Activation Devices:Triple Push Button Control: MMTC, Inc.: 3BXL, NEMA 4 Exterior Three-button with Lockout - Surface Mounted Control Station. Integrated keyed lockout. NEMA Type 4 rated. Triangular button pattern configuration.
  2. 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 disconnect of power to the motor and chain hoist. Hand crank operation not accepted.

1. MATERIALS
   1. Top Assembly Components:
      1. Horizontal Guides with Radius Turn, Mounting Brackets (1 Pair): Provide one non-contact galvanized horizontal panel guide with radius turn and mounting bracket per each jamb. Panel wheel guides shall be aluminum.
      2. Front and Rear Ceiling Supports (2 Pairs): Provide one front and one rear galvanized Unistrut-style support for suspension of horizontal guides from structure above, per each jamb.
      3. Cross Brace Channel: Provide one hot-dipped galvanized steel cross brace coupling horizontal panel guides.
      4. Motor Bracket: One motor bracket at the operator side of the door shall be provided.
      5. Drive Shaft: Provide one drive shaft, to be fabricated of galvanized cold rolled steel, 1-½” (38.0 mm) diameter.
      6. Drive Shaft Support: Doors with an opening width of 11’- 6” (3.5 m) and up to 16’- 4” (5.0 m) shall have one drive shaft support.
      7. Top Assembly Component Finishes: **[SELECT FROM THE FOLLOWING TOP ASSEMBLY FINISHES, DELETE THOSE NOT REQUIRED]**
         1. **(Standard Finish)** Finish: Galvanized steel, zinc, class G90 (Horizontal Guides, Mounting Brackets, Ceiling Supports, Cross Brace Channel, Motor Bracket).
         2. **(Optional Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color selected from manufacturer’s standard color range, RAL Classic Color System, (Horizontal Guides, Mounting Brackets, Ceiling Supports, Cross Brace Channel, Motor Bracket).
   2. 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: **[SELECT FROM THE FOLLOWING GUIDE TRACKS FINISHES, DELETE THOSE NOT REQUIRED]**
         1. **(Standard Finish)** Finish: Galvanized steel, zinc, class G90 (Tracks & Removable Front Covers).
         2. **(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).
      2. Thermoframe Decoupling Membrane: Provide intermediate thermal separation membrane of the door frame from the building structure.
      3. Heating Elements: Provide heated side elements and bottom plate at Guide Tracks.
   3. Door Curtain Seals: Twin black, vinyl loop seals at throat of the guide tracks, with one Lintel seal for the full width of the top of the door, vinyl-loop style. Include resistive heating elements in the seals. Bottom Panel: Rubber, field serviceable seal for the Bottom Profile Panel of the door to ensure close fit with uneven thresholds and floors, Color: Black.
   4. 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.
   5. Floor Heating System: Provide in coordination with Section 23 83 13.16 – Radiant-Heating Electric Cables/Mats. Provide at the door threshold, to cover the entire opening area and the Guide Track depth, to include an additional 8” (200 mm), to prevent freezing of the door curtain to the floor slab.
   6. Door Curtain Counterbalancing: Provide operation support via counterweight carriage and heavy-duty reinforced flat belts. Products shall not require springs to operate. No exceptions considered.
   7. Door Curtain Panels: Refer to Drawings for intended panel configuration, 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).
      1. Insulated Panel(s): 100 mm thick, interlocking flat-faced insulated steel panels, with neoprene rubber thermal break at panel joints (tops). Factory Material Textures: Exterior face to be Micrograin™ texture and Interior face to be Stucco texture. **[SELECT FROM THE FOLLOWING INSULATED PANEL FINISHES, DELETE THOSE NOT REQUIRED]**
         1. **(Standard Finish)** Finish: Factory powder coat painted, Color: RAL 9002, Grey White, [Interior Face Only] [Exterior Face Only] [Both Faces].
         2. **(Optional Finish)** Finish: Polyester Powder Coat Painted, baked-on steel. Color selected from manufacturer’s standard color range, RAL Classic Color System, [Interior Face Only] [Exterior Face Only] [Both Faces].
      2. Bottom Profile Panel: 100 mm thick, interlocking flat-faced insulated steel panel, including neoprene rubber thermal break at panel top, and black EPDM rubber threshold door curtain seal at panel bottom. Factory Material Textures: Exterior face to be Micrograin™ texture and Interior face to be Stucco texture. Automatic reversing edge mechanisms in bottom profile will not be accepted as a primary entrapment protection device. Bottom Profile Panel color finishes to coordinate with Primary Curtain Panel color finishes.
   8. Other Door Curtain Component(s):
      1. Intermediate Panel Connectors:(at each panel joint) For gap control spacing and sag between panels, to be spaced according to manufacturer’s set intervals at interior face of door. Standard Color: Light Grey.
2. FABRICATION
   1. Factory Production: Do not release doors for fabrication until all specified submittal materials have been reviewed, processed, and returned by the Architect as acceptable.
   2. 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.
3. FINISHES
   1. 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.
   2. Finishing System: Optional Color Finishes: Top Assembly, Guide Tracks, and Curtain Panels: baked-on polyester powder coat paint. Color as selected from manufacturer’s standard color range, RAL Classic color system.
4. ACCESSORIES
   1. General: Refer to Drawings including Door Schedules for basis of design for accessories, intended configurations, quantities, types, options, and remarks.

**[EDIT TO INCLUDE AS REQUIRED]**

* 1. **(Optional Equipment)** Heated Air Curtain: Provide in coordination with Section 23 34 33 – Air Curtains. Powered Aire, Inc.: FAC-E; Two speed heated Freezer Aire Curtain. Quantity: One (1). Mounting Extension Bracket and Unistrut-style pre-mount rails. Quantity: Two (2) each. Install Unit on warmer side of door. Provide supply power per specified model requirements. Provide A.3.0 Aire Controller Unit.
  2. **(Optional Equipment)** Air Dehumidifier: Provide in coordination with Section 23 84 16 – Mechanical Dehumidification Units. Fit unit to warmer side of door. Provide supply power per specified model requirements. Provide necessary control equipment.
  3. **(Optional Equipment)** Manufacturer Recommended:LED Lite-Advance System: Hörmann: Door operation indicating LED light strip safety system. Quantity: Two (2) sets (one exterior and one interior mounted). Provide flat retainer profiles for installation.

# PART 3 – EXECUTION

1. EXAMINATION
   1. 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 to achieve the best possible installation.
2. PREPARATION
   1. Coordinate installation of overhead rapid coiling doors with other trades prior to commencement of work. Exterior doorway openings should be weatherproofed, flashed, and ready to receive finishes prior to commencing installation. Repair or replace damaged substrate materials and hold installation procedures until repairs are complete.
3. INSTALLATION
   1. 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.
   2. Tolerances: the door must be installed in an opening that is the products manufactured finished size.
4. SYSTEMS STARTUP, Adjusting, Cleaning
   1. Initial Operation: Before initial operation of the door and putting into service, check that it is in good working order and free of defects.
      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.
   2. 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. Verify the proper functioning of heating elements and optional accessories.
   3. Cleaning and Care: During construction operations Installer shall provide progress cleaning that minimizes accumulation of dirt, dust, ice, snow, 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 ice, snow or foreign materials from the door. DO NOT rub over the panels when dry, otherwise risk of scratching the surface finish may occur.
5. CLOSEOUT ACTIVITIES
   1. 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.
6. PROTECTION, Maintenance
   1. 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.
   2. Maintenance Intervals: Consult Product Owner’s Manual for proper maintenance and testing requirements. Cleaning the door curtain is recommended as needed for removal of dirt accumulation.
7. ATTACHMENTS
   1. Hörmann High Performance Doors: Product Data Sheet, ISO Speed Cold H 100.

END OF SECTION 08 33 23.13

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