

SECTION 08 33 23.13

OVERHEAD RAPID COILING DOORS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes:
1. High-speed, Overhead Flexible Coiling Door assemblies, at interior applications.
- B. Related Requirements:
1. Refer to Door, Frame and Hardware Schedules, related detail drawings, including jamb, head and thresholds as indicated on Contract Drawings for locations, quantities, and remarks, as well as general provisions of the Contract, General and Supplementary Conditions, and Division 01 which shall apply to the scope of this section.
 2. Related sections may include:
 - a. Section 03 00 00 – Concrete.
 - b. Section 04 22 00 – Concrete Unit Masonry.
 - c. Section 05 10 00 – Structural Metal Framing.
 - d. Section 07 60 00 – Flashing and Sheet Metal.
 - e. Section 08 00 00 – Openings.
 - f. Section 08 71 13 – Automatic Door Operators.
 - g. Section 10 14 00 – Signage.
 - h. Section 11 12 00 – Parking Control Equipment (Overhead Clearance Bars).
 - i. Section 26 00 00 – Electrical.
 - j. Section 28 10 00 – Access Control.
 - k. Section 32 39 00 – Manufactured Site Specialties (Bollards).

1.02 REFERENCES

- A. Abbreviations and Acronyms:
1. HPD – High Performance Door(s).
 2. LOTO – Lockout-Tagout.
 3. ORCD – Overhead Rapid Coiling Door(s).
- B. Definitions:
1. Activation Device – Any device used to initiate operation of the door.
 2. Control Panel – An enclosure that houses electrical controls for the door, also may be referred to herein as a Controller, or Control Box.
 3. Door Opening – The clear open width and height in a host wall.
 4. Hand of Operation – The side on which the door operator is placed, as viewed from the coiling side of the door. It is either right hand (RH) or left hand (LH) operation.
 5. High Performance Door – A power-operated rolling, folding or sliding non-residential door, generally characterized by either 100 or more cycles per day or 40 or more inches per second opening speed, and typically made-to-order and/or designed for higher durability, and/or designed to break away due to equipment impact. High Performance Doors may be referred to herein as Overhead Rapid Coiling Doors.
 6. High Speed Door – A subcategory type of High Performance Door; a non-swing door used primarily to facilitate vehicular access of material transportation, having an automatic closing device, with a minimum average opening rate of 32-inches per second, (0.81 m/s) a minimum closing rate of 24-inches per second, (0.60 m/s). High Speed Doors may be referred to herein as Overhead Rapid Coiling Doors.
 7. Hood – A closure housing that mounts horizontally over the coil brackets, serving as an enclosure for the door header.
 8. Light Curtain (Grid) – An optical safety sensor that consists of a multi-point light-emitting transmitter and a light-receiving detector. If the beams of light are blocked by an obstruction, the sensor signals the operator to stop and/or reverse the door immediately.
 9. Operation Cycle – One complete cycle of a door begins with the door in the closed position. The door is then moved to the open position and back to the closed position.
 10. Operator: A powered mechanism that opens and closes a door, also may be referred to herein as a Motor.
- C. Reference Standards:
1. ANSI – American National Standards Institute.
 2. ASCE / SEI – American Society of Civil Engineers / Structural Engineering Institute.
 - a. ASCE/SEI Standard 7-10 – Minimum Design Loads for Buildings and Other Structures.
 3. ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers.
 - a. ANSI/ASHRAE/IES Standard 90.1-2013 – Energy Standard for Buildings Except Low-Rise Residential Buildings.
 - b. ANSI/ASHRAE/USGBC/IES Standard 189.1-2014 – Standard for the Design of High-Performance Green Buildings.

4. ASTM – American Society for Testing and Materials, International.
 - a. ASTM A513-15 – Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.
 - b. ASTM A653-15 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - c. ASTM C1045-07 – Standard Practice for Calculating Thermal Transmission Properties Under Steady-State Conditions.
 - d. ASTM D3363-05 – Standard Test Method for Film Hardness by Pencil Test.
 - e. ASTM E90-09 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss.
 - f. ASTM E283-04 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Doors.
 - g. ASTM E330-14 – Standard Test Method for Structural Performance of Exterior Doors by Uniform Static Air Pressure Difference.
 - h. ASTM E547-00 – Standard Test Method for Water Penetration of Exterior Doors by Cyclic Static Air Pressure Difference.
 - i. ASTM E1971-05 – Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings.
 - j. ASTM G21-96 – Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
5. DASMA – Door & Access Systems Manufacturers’ Association, International.
 - a. ANSI/DASMA 105-2012 – Test Method for Thermal Transmittance and Air Infiltration of Garage Doors.
 - b. ANSI/DASMA 108-2012 – Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference.
 - c. DASMA TDS #163 – Garage Door R-Value.
 - d. DASMA TDS #402 – High Performance Door Warning Labels.
6. IEC – International Electrotechnical Commission.
 - a. ANSI/IEC 60529-2004 – Degrees of Protection Provided by Enclosures (IP Code).
 - 1) IP54, IP66, IP67
7. NEMA - National Electrical Manufacturers Association.
 - a. NEMA 250-2003 – Enclosures for Electrical Equipment (1000 Volts Maximum).
 - 1) NEMA Enclosure Type 3
 - b. NEMA MG 1-2009 – Motors and Generators.
 - 1) NEMA Insulation Class A
8. NFPA – National Fire Protection Association.
 - a. NFPA 70: National Electrical Code® (NEC).
9. NFRC – National Fenestration Rating Council, Incorporated.
 - a. ANSI/NFRC 100-2014 – Procedure for Determining Fenestration Product U-factors.
 - b. NFRC 102-2014 – Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems.
 - c. ANSI/NFRC 200-2014 – Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
 - d. ANSI/NFRC 400-2014 – Procedure for Determining Fenestration Product Air Leakage.
10. OSHA – Occupational Safety and Health Administration, Standards.
 - a. Title 29 CFR - Code of Federal Regulations 1910.147, The Control of Hazardous Energy (Lockout/Tagout).
 - b. Title 29 CFR - Code of Federal Regulations 1910 Subpart F, Standard for Powered Platforms, Man-lifts, and Vehicle-Mounted Work Platforms.
11. UL – Underwriters Laboratories, Incorporated.
 - a. UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.
 - b. UL 508 – Standard for Industrial Control Equipment.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 1. Coordinate the work of this Section with the respective trades responsible for installing interfacing and adjoining work for proper sequence of installation and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
 2. Coordinate Overhead Rapid Coiling Door’s operating controls with specified accessories, and activation devices.
- B. Pre-Installation Meetings:
 1. Schedule a conference to occur not less than 14 days prior to installation commences for all High Performance Doors to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Provide not less than 7 days’ advance notice to attendees, Owner, and Architect.
 2. Conference participants shall include the Contractor, Owner’s Representative, Architect, Door Installer, Manufacturer’s Sales Representative, Electrician, and representatives of other trades affected by installation of Overhead Rapid Coiling Doors.
 3. Conference topics to be discussed shall include:
 - a. A review of Contract Documents and accepted Submittals shall be made and deviations or differences shall be resolved.
 - b. If conflict should exist between what is considered good practice and Contract Documents, these differences shall be defined.
 - c. Pre-Installation Conference and observation of site conditions shall serve to clarify Contract Documents, application requirements and what work should be completed before installation can begin.
 - d. Prepare and submit to all invited parties including those not in attendance, Owner’s Representative, Architect a written report of the Pre-Installation Conference. The Report shall be submitted within 3 business days following the conference.

1.04 SUBMITTALS

- A. Product Data:
1. For each type and size of Overhead Rapid Coiling Door and accessory, include 3 set(s) details of construction relative to materials, dimensions, component connections, profiles and finishes. Provide rough-in diagrams, operating instructions and maintenance information. Include the following:
 - a. Setting Drawings, templates, and installation instructions for built-in or embedded anchor devices.
 - b. Summary of forces and loads on walls and jambs.
 - c. Motors: Show nameplate data and ratings.
 - d. Operation & Maintenance Manual.
- B. Shop Drawings:
1. Coordinate scheduling of Shop Drawings submittal with submittals for related portions of work.
 2. Take field measurements before preparation of shop drawings and fabrication of doors, where possible to enable proper fitting of the work. Allow for adjustments within specified tolerances wherever taking of field measurements before fabrication may delay work.
 3. Include design drawings fully detailing each door assembly; indicate size, clearances, and load diagrams, construction details for head, jambs, and threshold; material types, sizes, shapes, thicknesses, joints and connections; hardware, horsepower, voltage, phase, and hertz; location of control devices and drive units; and all design and detail data for work of other trades affected by the installation of Overhead Rapid Coiling Doors.
 4. Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details and include information for special components and installations not dimensioned or detailed in manufacturer's Product Data Sheets.
 5. Wiring Diagrams: Detail wiring for power, signal, and control systems. Differentiate between manufacturer-installed and field-installed wiring and components provided by the door manufacturer and those provided by others.
- C. Samples:
1. Submit 1 set(s) of sample door materials, made available upon request to the owner's representative, and Architect.
 2. Submit selection color samples displaying manufacturer's full range of standard colors and finishes for initial selection by Architect.
 3. Submit actual cross sectional metal door panel samples of colors and finishes available. Samples sizes to be not less than 3" (76mm) x 3" (76mm).
 4. Submit 3 verification samples demonstrating actual materials, finishes, colors and textures of each selected Overhead Rapid Coiling Door model specified. Sample sizes to be 12" (305mm) long, 6" (152mm) x 6" (152mm), or full size as appropriate to materials.
- D. Manufacturers' Instructions:
1. Overhead Rapid Coiling Door manufacturer shall indicate installation sequences, procedures, adjustments, and alignment procedures in written form.
 2. Submit manufacturers' written installation procedures that shall be the basis for accepting or rejecting actual installation procedures.
 3. In addition to installation methods, and guidelines, manufacturers' information shall include storage and handling requirements, preparation, site care, cleaning, and maintenance instructions and recommendations.
 4. Maintain one copy of manufacturer's installation instructions on-site to be readily available upon request.
- E. Sustainable Design Submittals:
1. Provide documentation verifying that components, processes, and/or assemblies provided are in compliance with specified requirements; refer to Division 01, upon request.
 2. Submit certification/letter of documentation from manufacturer for products as part of project documentation for verification in Green Building Certification Programs which this project may participate.
 - a. Recycled Content: Indicate percentages by weight or unit of product for post-consumer and pre-consumer recycled content.
 - b. Local/Regional Materials: Indicate location of manufacturing facility; indicate distance between manufacturing facility and the project site.
 - c. Volatile Organic Compounds (VOC) Data: Submit manufacturer's product data for adhesives, coatings, paints. Indicate VOC limits of the product or its components. Submit MSDS highlighting VOC limits.
- F. Qualification Statements:
1. Submit documentation to demonstrate installer's capabilities and experience working with Overhead Rapid Coiling Doors and accessories.

1.05 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data:
1. Follow and comply fully with manufacturer's scheduled maintenance program, including periodic required adjustments, suggested maintenance intervals, and retention of manufacturer's data sheets, and equipment inter-connection diagrams. Submit instructions to be followed in operating and maintaining components of Overhead Rapid Coiling Doors. Include a copy of instruction in Operation and Maintenance Data Manual. Refer to Division 01.

- B. Warranty Documentation:
 - 1. Include final executed warranty document as approved or accepted by Owner. Include a copy of warranty in Warranties and Bonds Manual. Refer to Division 01. Sign-off documents may be required to authorize product warranties, verify requirements prior to completion of work included in this section.

1.06 QUALITY ASSURANCE

- A. Regulatory Agency Approvals:
 - 1. Listing and labeling shall be provided for electrically operated fixtures specified in this section.
 - 2. The terms “Listed” and “Labeled”: as defined in NFPA 70, Article 100.
 - 3. Listing and Labeling Agency Qualifications: A “Nationally Recognized Testing Laboratory” as defined in OSHA Regulation 1910.7. Internationally recognized testing agencies may also be qualified as equivalent per the discretion of the Authority Having Jurisdiction on the Project.
 - 4. Electrical door components shall be minimum UL standard compliant or have demonstrated equivalent compliance product safety standard testing (EN, BS, CSA, DIN, ISO) per manufacturer and acceptance by the Authority Having Jurisdiction.
 - 5. Electrical control devices shall be minimum NEMA Type 3 compliant.
- B. Qualifications:
 - 1. Suppliers: Obtain Overhead Rapid Coiling Doors, including all components and accessories though one source, from a single manufacturer. Use only new doors, components and accessories for this project.
 - 2. VOC Emissions: Provide low or zero VOC (volatile organic compound) off-gassing products. Limit the release of toxic emissions at the project site, especially indoors.
 - 3. Installers: Engage experienced installers having demonstrated successful application on projects of similar scope and complexities for both installation and maintenance of units required for this project. Installers should be trained and authorized by the Overhead Rapid Coiling Door manufacturer to perform the work of this section.
 - a. Field Measurements: Verify field measurements are as indicated on shop drawings prior to beginning fabrication. Verify power supply conforms with overhead rapid coiling door electrical requirements prior to fabrication.
 - b. Coordination: Coordinate the work with installation of electrical power locations, and sizes of conduit.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Acceptance Requirements:
 - 1. Verify completeness of shipment upon receipt of materials. Confirm all delivery of all component parts with original shipping manifest.
 - 2. Delivery of materials shall be in original rolls, packages, boxes or crates bearing the manufacturer’s name, brand, model number, and installation location.
- B. Storage and Handling Requirements:
 - 1. Store all materials in dry locations with adequate ventilation, free from dust and water, and available for inspection and handling. Handle doors carefully to prevent damage. Remove damaged items that cannot be restored to the acceptance of the Owner’s Representative and Architect, and replace with new items.
- C. Packaging Solid Waste Management:
 - 1. Wood Shipping Containers and Crates:
 - a. Verify all door components, parts, signage, labels, manuals and paperwork have been removed, unpacked, and are accounted for from shipping containers prior to processing for recycling or disposal.
 - 2. Minimize waste and divert materials from landfills.
 - 3. Follow the U.S. EPA’s solid waste management hierarchy:
 - a. Source Reduction
 - b. Reuse
 - c. Recycling
 - d. Land Disposal
 - e. Combustion/Incineration

1.08 WARRANTY

- A. Manufacturer Warranty:
 - 1. Manufacturer’s standard form in which manufacturer and installer agree to repair or replace Overhead Rapid Coiling Door assemblies, components, and accessories that fail in materials or workmanship within specified warranty periods.
 - 2. Warranty Period: Provide the following:
 - a. Beginning Coverage: The period of warranty shall start from the date of shipment of the product to the customer and shall cover a period as described herein.
 - b. The motor is guaranteed against defects in materials and workmanship for a period of 5 full years (excludes catch system). All other mechanical and electrical components are warranted against defects for a period of 2 full years. Fabric panels are warranted against

defects for a period of 2 full years. Products with less than a 5/2-year warranty will not be accepted. During the warranty period, labor is covered for the first year.

- c. Missing Parts Claims: Valid for one week, effective from date of delivered receipt of product.
 - 3. Intended Use: Overhead Rapid Coiling Doors are used to close openings in walls for through-traffic and accelerate the flow of materials, to safely close rooms, to make machines safe and secure, to conserve building systems energy consumption, to improve indoor environmental quality, comfort and control. Any other or further use is regarded as non-intended use.
- B. Extended Correction Period:
- 1. The Installer's work shall carry a minimum warranty term of one year from completion for craftsmanship, labor, repairs, adjustments and corrections made to the Overhead Rapid Coiling Door upon completion of installation.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers:
- 1. Subject to compliance with requirements, provide Overhead Rapid Coiling Door assemblies as manufactured by the following:
 - a. Manufacturer List:
 - 1) Hörmann High Performance Doors:
Manufacturer of Overhead Rapid Coiling Doors: Hörmann Flexon LLC.,
Starpointe Business Park, 117 Starpointe Boulevard, Burgettstown, Pennsylvania 15021-9506
Toll Free: (800)-365-3667 / Phone: 724-385-9150
Fax: (724) 385-9151 Attn: Inside Sales
Website: www.hormann.us / Email: info2@hormann.us
- B. Products Options:
- 1. Provide the following as to be considered the basis of design:
 - a. High Performance Door Model: Speed-Commander™ Series – Model 1400 SEL¹⁹ Cool-Master.
- C. Substitution Limitations:
- 1. No substitutions or exceptions shall be approved.

3.01 ATTACHMENTS

- A. Included:
- 1. Product Data (Cut) Sheets, for reference to product selections.
 - a. Hörmann, *Product Data Sheet, Speed-Commander™ 1400 SEL¹⁹ Cool-Master*.

END OF SECTION 08 33 23.13