
PART 1 GENERAL**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes overhead coiling doors, complete with accessories.
- B. Related Requirements:
 - 1. Division 1 Section "Sustainable Design Requirements".

1.3 QUALITY ASSURANCE

- A. The work of this section shall be performed by a company which specializes in the type of overhead coiling doors work required for this Project, with a minimum of 5 years of documented successful experience and shall be performed by skilled workmen thoroughly experienced in the necessary craft.
 - 1. Work shall be performed in compliance with Owner's insurance underwriters' requirements and UL approvals and testing for materials, assemblies and procedures.
- B. Manufacturer shall specialize in manufacturing the type of overhead coiling doors specified in this section, with a minimum of 5 years of documented successful experience, and have the facilities capable of meeting all requirements of Contract Documents as a single-source responsibility and warranty.
- C. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for both installation and maintenance of units required for this Project.
- D. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at as close to neutral pressure as possible according to NFPA 252 or UL 10B.
 - 1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
 - 2. Smoke Control: At smoke barriers, provide doors that are listed and labeled with the letter "S" on the fire-rating label by a qualified testing agency for smoke- and draft-control based on testing according to UL 1784; with maximum air-leakage rate of 3.0 cfm/sq. ft. (0.01524 cu. m/s x sq. m) of door opening at 0.10 inch wg (24.9 Pa) for both ambient and elevated temperature tests.
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- F. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.
- G. Manufacturer's identification tags or marks are not acceptable on surfaces which will remain exposed to view after installation.
 - 1. Evidence of "patching" after removal of tags or marks is not acceptable.

1.4 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design overhead coiling doors, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance, Exterior Doors: Exterior overhead coiling doors shall withstand the wind loads, the effects of gravity loads, and loads and stresses within limits and under conditions indicated according to SEI/ASCE 7 or Wind Tunnel test report, whichever is most stringent.
 - 1. Deflection Limits: Design overhead coiling doors to withstand design wind load without evidencing permanent deformation or disengagement of door components.

- C. Seismic Performance: Overhead coiling doors shall withstand the effects of earthquake motions determined according to SEI/ASCE 7>.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
 - 2. Seismic Component Importance Factor: 1.5.
- D. Operation Cycles: Provide overhead coiling door components and operators capable of operating for not less than number of cycles indicated for each door. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.

1.5 SUBMITTALS

- A. Submit the following according to Conditions of the Construction Contract and Division 1 Specification Sections.
- B. Shop Drawings: Shall clearly indicate but not be limited to:
 - 1. Elevations, design and installation details to withstand required windload.
 - 2. All details required for complete operation and water/weathertight installations.
 - 3. Hardware locations.
 - 4. Type of metal and finish for curtain.
 - 5. Finish for miscellaneous components and accessories.
 - 6. Electrical requirements and information indicating installation and operation are in compliance with NEMA.
 - 7. Size and type of operator for motor-operated doors.
- C. Product Data: Shall be clearly marked to indicate all technical information which specifies full compliance with requirements of this section and Contract Documents, including electrical rough-in requirements.
 - 1. Construction details, material descriptions, dimensions of individual components, profiles for slats, and finishes.
 - 2. Rated capacities, operating characteristics, electrical characteristics, and furnished accessories.
 - 3. For fire-rated door, description of fire-release system including testing and resetting instructions.
- D. LEED Submittal:
 - 1. MRc4 – List all materials with recycled content indicating material cost broken out by post-industrial (pre-consumer) and post-consumer content. Only include data for materials permanently installed on the project site.
 - 2. MRc5 – List all materials with regional content indicated the cost and percentage of each material or fraction of each material (by weight) that is extracted, harvested or recovered as well as manufactured within 500 miles of the project site – 101 First Street, San Francisco, CA.
- E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
 - 1. Curtain Slats: 12 inches (305 mm) long.
 - 2. Bottom Bar: 6 inches (150 mm) long with sensor edge.
 - 3. Guides: 6 inches (150 mm) long.
 - 4. Brackets: 6 inches (150 mm) square.
 - 5. Hood: 6 inches (150 mm) square.
- F. Delegated-Design Submittal: For overhead coiling doors indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 1. Detail fabrication and assembly of seismic restraints.
 - 2. Summary of forces and loads on walls and jambs.
- G. Qualification Data: For qualified Installer.
- H. Seismic Qualification Certificates: For overhead coiling doors, accessories, and components, from manufacturer.
- I. Oversize Construction Certification: For door assemblies required to be fire-rated and that exceed size limitations of labeled assemblies.
- J. Operations and Maintenance Data: Shall clearly indicate manufacturer's printed instructions for operations and maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under anticipated use conditions and precautions against materials and methods which may be detrimental to finishes and performance.

- K. Hazardous Materials Notification: In the event no product or material is available that does not contain asbestos, PCB or other hazardous materials as determined by the Owner, a "Material Safety Data Sheet" (MSDS) equivalent to OSHA Form 20 shall be submitted for that proposed product or material prior to installation.
- L. Asbestos and PCB Certification: After completion of installation, but prior to Substantial Completion, Contractor shall certify in writing that products and materials installed, and processes used, do not contain asbestos or polychlorinated biphenyls (PCB), using format in Article 3 of General Conditions.

1.6 DELIVERY, HANDLING, STORAGE

- A. Comply with General Conditions and Division 1 Section "Product Requirements."

1.7 WARRANTY

- A. Comply with General Conditions and Division 1 Section "Product Requirements", agreeing to repair or replace specified materials or Work that has failed within the warranty period. Failures include but are not limited to the following:
 - 1. Surface defects.
 - 2. Inadequate or misplaced hardware reinforcement.
 - 3. Improper operation of doors.

PART 2 PRODUCTS

2.1 UNAUTHORIZED MATERIALS

- A. Materials and products required for work of this section shall not contain asbestos, polychlorinated biphenyls (PCB) or other hazardous materials identified by the Owner.

2.2 ACCEPTABLE MANUFACTURERS

- A. General: For the purpose of establishing the minimum functional, aesthetic and quality standards required for the work of this section, products of the following manufacturer are specified:
 - 1. The Cookson Company/Gastonia, North Carolina.
 - 2. Cornell Iron Works, Inc.
 - 3. Overhead Door Company.
 - 4. McKean Door.
- B. Substitutions: Comply with General Conditions using form in Division 1 Section "Substitution Request Form."
- C. Recycled Content: For materials containing post-industrial (pre-consumer) and/or post-consumer recycled content, contractor shall document the cost and percentage (by weight) of each material broken out by post-industrial (pre-consumer) and post-consumer content.
- D. Regional Content: For material that is extracted, harvested or recovered as well as manufactured within 500 miles of the project site – 101 First Street, San Francisco, CA, contractor shall document the cost and percentage (by weight) of each material that is regional.

2.3 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.4 ALUMINUM FINISHES

- A. Baked-Enamel or Powder-Coat Finish: AAMA 2603. Comply with coating manufacturer's written instructions for cleaning, conversion coating, application, and baking.

2.5 STEEL AND GALVANIZED-STEEL FINISHES

- A. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

2.6 COILING SERVICE DOORS

- A. Type: Cookson "FD01-A" Insulated Fire-Rated Rolling Door of steel construction, motor operated, complete with curtain slat.
1. Mounting Type: Standard mounting.
 2. Size: 24'-W x 15'-6"-H.
 3. Fire Rating: 45 min.
- B. Curtains for Insulated Doors:
1. Type: Interlocking No. 45 slats, fabricated from hot-dipped galvanized steel, ASTM A653 Grade A with G90 galvanized coating, ASTM A653, gauge as required to meet windload requirements in a continuous length for width of door without splices.
 2. Rigid insulation shall be "sandwiched" between the two slats.
 3. Type of Insulation: 13/16" thick expanded polyurethane, with flame spread not greater than 25, smoke development of 50 or less.
 4. Insulated doors shall be complete with heavy-duty extruded vinyl weatherstrips designed to reduce air infiltration and dust at any temperature.
 - a. Weatherstrips shall be a replaceable type if damaged or torn.
 5. Bottom of curtain shall be reinforced with two steel angles, not less than 1½" x 1½" x 1/8", galvanized.
 - a. Provide sloped bottom bar to accommodate sill condition as required.
 6. To seal entire door opening, a flexible solid foam astragal seal shall be placed at bottom of door and fitted into guides.
 7. Endlocks: Steel, galvanized after fabrication, secured to curtain slats with galvanized rivets.
- C. Guides:
1. Type: Composed of three continuous steel angles, minimum 3/16" thick, bolted together to form a groove for the curtain, complete with stops.
 - a. Primed and painted.
 2. Depth of Guides: Shall provide adequate slat penetration to satisfy windload requirements.
 3. Windlock bars are required to prevent curtain from leaving guides under load.
 4. Slot bolt holes for track adjustment.
- D. Brackets:
1. Type: Fabricated from steel plates of thickness required to meet design requirements, primed and painted.
- E. Barrel:
1. Type: Steel tubing of diameter and wall thickness to restrict maximum deflection of .03"/ft. of span under full load.
 2. Springs: Helical torsion type designed to include an overload factor of 25% and for optimum ease of operation; grease packed.
 3. Spring Tension: Shall be adjustable by means of an exterior wheel.
- F. Hood:
1. Type: Fabricated of 24 gauge steel, galvanized and reinforced to prevent sagging in any width of opening, primed and painted.
 2. For Insulated Doors: Provide a waterproof canvas hood baffle to minimize seepage of air around the hood.
 - a. This baffle shall be of type and quality that will remain flexible in cold weather while resisting tearing and cracking.
- G. Motor Operator:
1. Type: UL approved heavy-duty type consisting of the following components:
 - a. Heavy-duty hoist type motor.
 - b. Gearbox with gears designed to AGMA standards running in multi-temperature lubricant.
 - c. Mechanical self-adjusting brake.
 - d. Rotary limit switch.
 - e. Voltage: 208 V, 3 phase.

- H. Operation Cycles: Door components and operators capable of operating for not less than 50,000. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.
- I. Optional Electrical Features Required:
 - 1. Cookson's Detectedge: Vinyl-jacketed device mounted on bottom bar to stop or reverse rolling door when it hits an obstruction, UL approved Class 2-24 Volt system, complying with UL Bulletin 325 which required the use of this type of safety device on all power-operated doors when "CLOSE" button is not wired for constant pressure.
 - 2. Keyed Pushbutton Station: Access only to those having keys.
 - 3. Time Delay System: Allows door to remain open for periods of fifteen seconds to three minutes, giving pedestrians or vehicles sufficient time to enter or leave, then allow door to automatically close.
 - 4. Warning Devices: Horns or lights which will warn pedestrians or vehicles.
- J. Controls:
 - 1. Door operators shall be equipped with ability to accept a raise and a lower signal from the building security system.
 - 2. Identify required terminations and locations to the building security system contractor.
 - 3. Provide additional door controls at Dock Office.
- K. Finish:
 - 1. Type: Cookson ColorCote Epoxy-based powder coating.
 - 2. Color: To be selected by Architect.
 - 3. Hood: Finish and color to match curtain.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates areas and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.
- B. Examine locations of electrical connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install overhead coiling doors in accordance with approved shop drawings, manufacturer's published recommendations and Contract Documents.
- B. Fit, align, lubricate and adjust overhead coiling door assemblies level and plumb to provide smooth and proper operation.
- C. The completed installation shall leave overhead coiling doors water and weathertight, and free from warp, twist, distortion.

3.3 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Perform installation and startup checks according to manufacturer's written instructions.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - 3. Test door closing when activated by detector or alarm-connected fire-release system. Reset door-closing mechanism after successful test.

3.4 PROTECTION, CLEANING, ADJUSTMENT

- A. Thoroughly clean exposed surfaces after installation as recommended by manufacturer.
- B. After completion and testing, doors shall be protected from use until turnover to Owner.
- C. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

- D. Lubricate bearings and sliding parts as recommended by manufacturer.
- E. Adjust seals to provide weathertight fit around entire perimeter.

3.5 SCHEDULE OF LOCATIONS

- A. Door 193: Floor P1, Raised Truck Dock.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION