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[INSERT ARCHITECTURAL FIRM] ***[ALBANY THERMACHILL / THERMAFREEZE]***
[INSERT PROJECT NAME] ***[INSERT DATE]***

SECTION 08 33 23.13 – HIGH PERFORMANCE OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. High performance overhead coiling fabric doors for use in **[cold storage environments]** or [**freezer environments and extreme temperatures]**.

B. Related Requirements:

1. Section 05 50 00 "Metal Fabrications" for miscellaneous steel supports.
2. Division 26 and 28 Sections for electrical connections including conduit and wiring for coiling door operators and access control devices.

1.3 REFERENCES

A. References: Refer to the version year adopted by the Authority Having Jurisdiction.

1. National Electrical Manufacture’s Association (NEMA)
2. Underwriters Laboratories (UL)

B. National Electrical Manufacture’s Association (NEMA)

1. Type 4 - Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts.

C. Underwriters Laboratories (UL).

1. UL 508 Standard for Industrial Control Panels.

D. Door & Access Systems Manufacturers Association (DASMA)

1.4 DEFINITIONS

A. Activation Device: Device that, when actuated, sends an electrical signal to the door operator to open the door.

B. Safety Device: A device that detects the presence of an object or person within a zone where injury could occur and provides a signal to stop the movement of the door.

C. High Performance Door: A powered door characterized by sliding action that is designed to sustain heavy usage at relatively high speeds.

D. High Speed Door: (subcategory of *high performance doors*) A non-swinging door used primarily to facilitate vehicular access or material transportation, with a minimum opening rate of 32 inches per second and a minimum closing rate of 24 inches per second.

1.5 SUBMITTALS

A. Comply with Division 01 - Submittal Procedures.

B. Product Data: For each type of high performance overhead coiling door and accessory.

1. Include construction details, material descriptions, dimensions of individual sub-assemblies (side frames, header, control panel, motor), profiles for slats, and finishes.
2. Include operating characteristics, electrical characteristics, and furnished accessories.
3. Include description of automatic closing device and testing and resetting instructions.

C. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include plans, elevations, sections, and mounting details.
2. Show locations of controls, locking devices, and other accessories.
3. Include diagrams for power, signal, and control wiring.

D. Samples for Initial Selection: Manufacturer's finish charts showing full range of colors and textures available for units with factory-applied finishes.

E. Samples for Verification: For each type of exposed finish on the following components, in manufacturer's standard sizes:

1. Curtain fabric.

F. Informational Submittals: Manufacturer's product information and applicable sustainability program credits that are available to contribute towards a LEED rated project certification.

1. Credit MR 4.1 and 4.2: Manufacturer's or fabricator's certificate indicating percentage of post-consumer recycled content by weight and pre-consumer recycled content by weight for each Product specified under this Section.

G. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals Including a detailed parts list for high performance overhead coiling doors in quantity as required in Division 01, Closeout Submittals.

1.6 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 10 years of documented experience in manufacturing of doors and equipment of similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: Installers, trained by the primary product manufacturer, with a minimum 3 years documented experience installing and maintenance of units similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Source Limitations: Obtain each type of door, frame, operator and sensor components specified in this Section from a single source, same manufacturer unless otherwise indicated.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication and indicate on shop drawings.

B. Electrical: Verify actual job site power (voltage, phase and Hertz).

C. Verify environmental condition extremes.

D. Verify door sequence of operations.

1.8 COORDINATION

A. Coordinate sizes and locations of door openings and framing as required for high performance overhead coiling doors.

B. Electrical System Roughing-in: Coordinate layout and installation of high performance overhead coiling doors with connections to building power and access control system as applicable.

1. Fused disconnect required for each individual door within five feet of respective door (not supplied by door manufacturer).

1.9 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. High Performance Overhead Coiling Doors shall be free of defects in material and workmanship for a period of one (1) year from the date of substantial completion.

C. Special Product Warranty: Manufacturer's warranty in which manufacturer agrees to repair or replace components which fail to perform as follows:

1. 5-year / 1,000,000 Cycle Limited Warranty on Drive Motor and Gearbox.
2. 2-year / 300,000 Cycle Limited Warranty on all other Mechanical and Electrical Components.

D. During the warranty period a factory-trained technician shall perform service and affect repairs. A safety inspection shall be performed after each adjustment or repair and a completed inspection form shall be submitted to the Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: ASSA ABLOY Entrance Systems, 975-A Old Norcross Road, Lawrenceville, GA 30046. Toll Free (877) SPEC-123. Web- www.albanydoors.us Contact- specdesk.na.aaes@assaabloy.com

NOTE: Revise the following substitution clause as required by project requirements. Select either Item "B" or "C"

B. [Substitutions: Requests for substitution and product approval in compliance with the specifications must be submitted in writing and in accordance with the procedures outlined in Division 1, Section, "Substitution Procedures". Approval

of requests is at the discretion of the architect, owner, and their designated consultants.]

C. [Substitutions: Not Permitted.]

2.2 HIGH PERFORMANCE OVERHEAD COILING DOORS

NOTE: Select the type of door required for project. The ThermaChill is recommended for cold storage environments and the ThermaFreeze is recommended for freezer environments / extreme temperatures

A. Model: Albany **[ThermaChill]** **[ThermaFreeze]** high-speed industrial door. (Basis of Design):

1. Overhead coiling door with fabric curtain.
2. Overhead counterbalance system, motor and gearbox drive system.
3. Door side frames.
4. Control panel, activation devices, and safety sensor devices.

2.3 PERFORMANCE REQUIREMENTS

A. Opening Speed: Door to operate at a speed up to 130 inches (3302 mm) per second (size dependent).

B. Closing Speed: Door to operate at a variable speed up to 40 inches (609.6 mm) per second.

C. Operation Cycles: Drive motor and gearbox capable of operating for not less than 1,000,000 cycles. 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.

2.4 DOOR ASSEMBLY

A. Door Curtain Design:
1. Door Fabric: 22 ounce composite vinyl panel sections hot welded with 2 layers of double reflective, heavy duty polyethylene air pocketed insulation.
2. Bottom Bar: Soft, fully padded, break away bottom bar shall extend the full width of the curtain, sufficient to maintain the bottom edge of the curtain parallel to the door threshold at all times.
   a. Upon impact, the bottom bar releases from side frames and the door operation is stopped. Controller must indicate problem encountered and instruct operator on what steps should be taken to fix the problem.

1) Bottom bar must be self-repairing. Door must automatically reset itself after impact by pressing a button on control panel, no tools required.

b. Door to be provided with wireless failsafe electric safety edge (see Safety Devices).

B. Curtain Jamb Guides: Side frame assemblies constructed of extruded aluminum and galvanized steel members, fully bolted together.

1. Side frame assemblies shall extend a maximum of 3.34 inch (84.8 mm) from the wall.
2. Side frame shall have a minimum wall thickness of 0.100 inch (2.54 mm) to minimize damage if impacted.
3. Side frames to have a double weather seal so that there is a seal on both the front and back sides of the door panel.
4. Door must have no visible air gaps along the side or top of the door when the door panel is in the closed or down position.

C. Door Header: Top roll assembly constructed of extruded aluminum drum barrel with press-fit steel axles supported at each end by self-aligning bearings in powder coated steel brackets. Initial top roll diameter is built out with sheet metal skin and end caps.

1. Drum Barrel System:
   a. Minimum 5 inch (127 mm) diameter 6063-T6 aluminum extrusion with a minimum wall thickness of 0.125 inch (3.18 mm).
   b. Drum barrel shafts are constructed from nominal 1-3/8 inch (34.9 mm) hex AISI 1045 press-fit steel shafts.
   c. Drum barrel sheet metal skin rolled from 20 gauge galvanized steel.
2. Top Plates: Minimum 1/4 inch (6 mm) cold-rolled steel with heavy-duty, self-aligning bearings with cast iron housings to support the drum barrel. 1.25 inch (31.75 mm) diameter shaft bearing shall be load-rated at 4,350 lbf (19,350 N), 2520 rpm.
3. Springless System: No balancing springs or counterweights allowed.
4. Head frame must be provided with full weather seal along the entire top of the door.

D. Electric Door Operator: Reversible-type motor with controller for motor exposure indicated.

1. Usage Classification: Heavy duty, rated up to 60 cycles per hour and over 1000 cycles per day.
2. Motor Exposure: Exterior and Interior use.
3. Side Mounted: Operator is mounted to the header assembly on the left or right side of door and connected to door drive shaft.
4. Electrical Characteristics:
   a. Phase: Three phase.

b. Volts: **[208 Volt.] [230-240 Volt.] [460-480 Volt.] [575 Volt.]**
c. Hertz: 50/60.

5. Operator: Minimum 1.5 horsepower.
   a. The motor and gearbox shall be designed for high cycle operation.

NOTE: Contact the factory for amperage draw – dependent on door operator voltage and product options.

6. Drive System: Hollow shaft helical-worm drive.
7. Hand Crank: Manual brake disengagement lever and hand crank which allows door to be manually opened and closed without electrical power during installation.

NOTE: Select the following if required for project – recommended where a pedestrian door is not available nearby for egress purposes

8. **[Motor Mount Chain Hoist: Motor brake disengagement and chain hoist accessible from the ground level allowing manual opening and closing of the door during a power outage.]**
9. Limit Switches: Equip each motorized door with adjustable switches interlocked with motor controls and set to automatically stop door at fully opened position.
10. Encoder: Equip each motorized door with a rotary encoder mounted on the drive motor for precise positioning and speed regulation of the door in operation.
11. Timer: Each door to have automatic closing controlled by an adjustable hold open time delay.

2.5 CONTROL PANEL

A. MCC VectorControl™ variable frequency control system housed in a NEMA 4 rated enclosure.

B. Controls must include a frequency vector control drive system capable of infinitely variable speed control in both the up and down directions and integrated programmable capability allowing field customization of logic I/O functionality without adding components.

C. Operational parameters must be set from the Graphical User Interface (GUI).

D. Controller comes with factory set parameters, a 64 bit scrollable graphic/text display that shows functional information during normal operation and will advise if maintenance is required or of abnormal situations.

E. Controls must be fully self-diagnostic thru the GUI and provide corrective actions for error conditions.

F. Control interface must display options and guidance in full text displayed language. Language options must be available in English, Spanish, French, German, or Portuguese languages.

G. Door must be provided with electronic encoder. A proximity or rotary switch must be provided to accommodate the top position reference.

NOTE: The defrost system is only available with the Albany ThermaFreeze door for extreme temperature environments. Delete this section if not required.

2.6 DEFROST SYSTEM

NOTE: SELECT EITHER ITEM "A", ITEM "B", OR ITEM "C". CONSULT ALBANY SALES FOR ASSISTANCE WITH PROPER SELECTION BASED ON ENVIRONMENTAL CONDITIONS.

A. [Low Volume Unheated Blower System]

1. Door to be provided with low volume blower system to keep moisture and condensation off of the door panel.

B. [High Volume Unheated Blower System]

1. Door to be provided with fully adjustable high volume blower system to keep moisture and condensation off of the door panel. Blower motors must be a minimum 3/4hp.

2. Blower and cycling must be programmable.

3. Blowers to be fully adjustable and rotate up to 90 degrees.

C. [Heated Blower System]

1. Door to be provided with fully adjustable heated blower system to keep moisture and condensation off of the door panel. Blower motors must be a minimum 3/4hp.

2. Blower and heat cycling must be programmable. Blowers must be able to operate independent of heat elements.

3. Blowers to be fully adjustable and rotate up to 90 degrees.

D. Side columns and top beam to be supplied from factory with self-regulating 110V heat tape.

2.7 ACTIVATION DEVICES

A. General: Provide activation devices for condition of exposure and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated. Coordinate activation and safety devices with door operation and door operator mechanisms.

NOTE: Select activation devices from the options below

A. [Pedestrian Type Activation Devices:]

1. [Single Push Button Switch: Push to open, timer to close.]

2. [Palm Push Button Switch: Large type push button - push to open, timer to close.]

3. [Three Push Button Switch: Button for open, button for close, button for stop.]

4. [Pull Cord: Pull to open - Timer to Close.]

5. [Pull Cord: Pull to Open – Pull to Close.]

6. [Heated Pull Cord: For pull cord applications below 32 deg F (0 deg C). Pull to open - Timer to Close, or Pull to Open – Pull to Close.]

7. [Motion Sensor: BEA Falcon, microwave scanner, field adjustable wide angle.]
a. Differentiates between pedestrian and vehicular traffic.
b. Prevents false activation from cross traffic,
c. Remote control for set-up.

8. [Presence Sensor: BEA IRIS, active infrared.]
a. Detects slow moving or non-moving persons or objects.
b. Prevents premature automatic closing of door when pedestrians working near doorway.
c. Remote control for set-up.

B. [Vehicular Type Activation Devices:]

1. [Motion Sensor: BEA Falcon, microwave scanner, field adjustable wide angle.]
a. Differentiates between pedestrian and vehicular traffic.
b. Prevents false activation from cross traffic,
c. Remote control for set-up.

2. [Loop Detector: Detects ferrous metal objects via an inductive field for activation. Requires a channel to be cut into floor to install inductive loop wire.]

3. [Pull Cord: Pull to open - Timer to Close.]

4. [Pull Cord: Pull to Open – Pull to Close.]

5. [Heated Pull Cord: For pull cord applications below 32 deg F (0 deg C). Pull to open - Timer to Close, or Pull to Open – Pull to Close.]

6. [Radio Control Activation: Near proximity portable push button remote control programmable to individual doors or multiple doors in common.]
a. [One Button Remote Control.]
b. [Four Button Remote Control.]

2.8 SAFETY DEVICES

A. General: Provide safety devices for condition of exposure and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated. Coordinate safety devices with door operation and door operator mechanisms.

NOTE: Select either item "B" or item "C". Light Curtains are strongly recommended if any pedestrian traffic is expected

B. [Door to be provided with Albany Safety Light Curtain System.]

1. Light curtain must be housed inside of the side jamb guide assembly and cover an area to a height of no less than six (6) feet.
2. Light curtain system must have a minimum of 40 infrared thru-beam optical sensors.

C. [Door to be provided with two (2) sets of Through Beam Photo Eyes]

D. Door to be provided with failsafe electric safety edge. Door controller must indicate if the safety edge is not operable.

1. Connections between the safety edge and controller must be fully wireless. No coil cords allowed.
2. Bottom bar wireless system battery must be able to be replaced at ground level.

2.9 [REMOTE MONITORING SYSTEM]

NOTE: Select the Remote Monitoring System if required for the project

A. [Remote Monitoring System connectable to existing secure, password protected IT network with internet connectivity. System to be directly powered and controlled by the MCC Controller, and it can be upgraded remotely when new features are made available. System will notify authorized individuals via phone/text/email of selected key events or errors and also allows access the door history and current status information online.]

2.10 DOOR FABRIC

A. Composite Vinyl Fabric:

1. [Blue.]
2. [As selected from manufacturer's full range of available colors.]

2.11 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA's "Metal Finishes Manual for Architectural and Metal Products (AMP 500-06)" for recommendations for applying and designating finishes.

B. ALUMINUM FINISHES

1. AAMA 611, Clear, AA- M12C22A41, Class I, 0.018 mm.

C. STEEL FINISHES

1. 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. Galvanized Steel: Nominal 0.028-inch (0.71-mm) thick, hot-dip galvanized steel sheet with G90 (Z275) zinc coating, complying with ASTM A 653/A 653M.

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 high performance overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Install high performance overhead coiling doors, hoods, controls, and operators at the mounting locations indicated for each door.

C. Accessibility: Install high performance overhead coiling doors, switches, and controls along accessible routes in compliance with regulatory requirements for accessibility.

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 safety devices. Replace damaged and malfunctioning controls and equipment.

3.4 ADJUSTING

A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

1. Adjust exterior doors and components to be weather-resistant.

B. Lubricate bearings and sliding parts as recommended by manufacturer.

C. Adjust seals to provide tight fit around entire perimeter.

3.5 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door installation.

B. Clean glass and metal surfaces promptly after installation. Remove excess sealants, compounds, dirt and other substances. Repair damages finish to match original finish.

3.6 DEMONSTRATION

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

END OF SECTION 08 33 23.13