SECTION 08360

OVERHEAD DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Extreme Series High Performance Door System.
   1. Aluminum Full View Sectional Overhead Door.
   2. Electric door operator and controls
   3. Operating hardware tracks and support

1.2 RELATED SECTIONS

A. Section 05500 - Metal Fabrications: Steel frame and supports.
B. Section 06114 - Wood Blocking and Curbing: Rough wood framing and blocking for door opening.
C. Section 07900 - Joint Seals: Perimeter sealant and backup materials.
D. Section 08710 - Door Hardware: Cylinder locks.
E. Section 09900 - Paints and Coatings: Field painting.
F. Section 16130 - Raceway and Boxes: Empty conduit from control station to door operator.
G. Section16150 - Wiring Connections: Electrical service to door operator.

1.3 REFERENCES

A. ASCE 7 American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures
B. ANSI / DASMA 102; American National Standard specifications for sectional overhead type doors.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.
B. Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Installation methods.
   3. Operation and maintenance data.
   4. Nameplate data and ratings for motors.
C. Shop Drawings: Include opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.
D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 WIND PERFORMANCE REQUIREMENTS

A. Design doors to withstand positive and negative wind loads as calculated in accordance with applicable building code and detailed in structural documents.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the types of doors specified in this section, with not less than ten years of documented experience.
B. Installer Qualifications: Company specializing in installing the types of products specified in this section, with minimum of five years of documented experience, and approved by the door manufacturer.

1.7 WARRANTY

A. Finish Limited Warranty:
   1. Standard Paint – 5 Years
   2. Custom Color Option (Color Blast® Finish) – 5 years
   3. Custom Color Option (RAL Powder Coat Finish) – 5 years

B. Parts and Hardware Limited Warranty
   1. Parts and Hardware: 1 Year
   2. Springs: 2 Years or 50,000 cycles.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Clopay Corporation
   2. Cookson
   3. Cornell
B. Substitutions not permitted:
C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 SECTIONAL OVERHEAD DOORS, EX900 SERIES

A. EX904U: Aluminum Full View Sectional Door, Polyurethane Insulated
   1. Maximum Door Size: 16 ft, 2 inches (4.93 m) wide by 14 ft (4.27 m) high.
   2. Panels Sections: 2-1/8 inches (54 mm) thick extruded 6053-T5 aluminum.
   3. Rails and Stiles: Polyurethane foam injected.
   4. Stiles: Double end stiles
   5. Rollers: Long-stem tandem rollers.
   6. Astragal: U-shaped flexible PVC in retainer of full-length 0.055 inch (1.4 mm) rigid PVC.
   7. U-Factor: 0.86 (with clear insulated glass)
   8. R-Value: 3.8 (with clear insulated glass)
   9. Air Infiltration: 0.15cfm/ft2
   10. Aluminum Finish:
      a. Factory pre-painted white
      b. Factory pre-painted brown
      c. Custom color powder coat RAL #_____.
      d. Color Blast® (Sherwin Williams® Color Code – High quality durable two-part Polane® paint system) SW # _____.
   11. Windows: Extruded polypropylene windows measuring 8 inches by 24 inches (200 mm by 600 mm).
      a. Glazing thickness
         i. 1.8 inch (3 mm)
         ii. 1/4 inch (3 mm)
         iii. 1/2 inch (13 mm)
         iv. 5/8-inch (16mm) Polygal
      b. Glazing type
         i. Tempered glass
         ii. Insulated tempered glass
         iii. Custom Tempered _____
         iv. Acrylic
         v. Polycarbonate
         vi. Triple Wall Polygal
         vii. Polystyrene Insulated Aluminum Panel
      c. Glazing tint
         i. Clear
         ii. Bronze
         iii. Gray
         iv. Frosted/Satin Etched
         v. Custom _____
   12. Locking:
      a. Provide one inside slide lock with interlock.
      b. Provide two inside slide locks with interlock
      c. Provide five pin cylinder lock with outside key with interlock
      d. No lock
   13. Weather-stripping: Provide complete perimeter seals. Provide flexible top seal, flexible jamb seal and U-shaped bottom seal
   14. Track:

a. 2 inches (50 mm) track designed for 2” diameter rollers. Vertical tracks minimum 0.061 inch (1.55 mm) galvanized steel. Horizontal tracks minimum 0.075 inch (1.91 mm) galvanized steel.
b. 3 inches (75 mm) track designed for 3” diameter rollers. Vertical and horizontal tracks minimum 0.096 inch (2.43 mm) galvanized steel.
c. Provide standard lift track as indicated.
d. Provide high lift track as indicated.
e. Provide full vertical Lift as indicated.

15. Spring Counterbalance:
    a. Specialized torsion spring counterbalance mechanism sized to weight of the door. Spring to be helically wound, oil tempered, treated with secondary process to increase cycle life and reliability. Spring to be mounted on a solid steel shaft with center coupling
    b. Cable drum of die cast aluminum with high strength galvanized aircraft cable with minimum 7 to 1 safety factor. Cable to be at minimum 7-19 stranded 3/16 diameter with thimbled loop.
    c. Cable Safety Device: Snubbers to help maintain cable tension.
    d. Spring cycles:
        i. 50,000 cycles standard
        ii. Maximum cycles on a single shaft.

2.3 DOOR OPERATOR

1. Manufacturer: Liftmaster
2. Motor design: 1.25 HP
    a. Single Phase, 120/230V.
    b. 3-phase, 230V
    c. 3-phase, 460/575V available with supplementary step-down transformer provided by manufacturer.
3. Operation: Variable speed direct drive.
4. Operator Speed: Travels an average of 24” in the up direction and between 12”-18” in the down direction, depending on door type and drum size. Includes soft start/stop ramps.
5. Motor: Listed by Underwriters Laboratories. Meet UL 325.
6. Wall controller: Provide separation of low and high voltage wiring and include functionality of 3-button station; set door profile and programming limits, and performs diagnostics.
7. Floor-level programming: Set limits, door profile, operating modes, and select photo entrapment devices via wall controller from standing height.
8. Display: Absolute cycle count, service cycle count, diagnostic messages, and door and operator status via 2-line, text LED display.
9. Cycle counter: Resettable via wall controller or myQ technology.
10. Limit setting: Electronic pushbutton via wall controller.
11. Manual Hoist: Manual hoist with integral manual operation protection circuit.
12. Cable Tension Monitor: Mitigates door operation when cable slackening occurs.
13. Internet connectivity:
    a. Built-in Wi-Fi with myQ technology.
    b. Over-the-air updates.
14. Service cycle count, lifetime cycle count, and remote diagnostics via wall controller or myQ technology.

Specifier to Select the following

15. Control Stations:
    a. One Button Type
        i. [NEMA 1], [NEMA 4], [NEMA 4X], [NEMA 7/9 enclosure]
    b. Three Button Type
        i. [NEMA 1], [NEMA 4], [NEMA 4X], [NEMA 7/9 enclosure]
    c. Three position key operated
        i. [NEMA 1], [NEMA 4], [NEMA 4X], [NEMA 7/9 enclosure]

16. Remote Controls:
    a. One button DIP.
    b. Three button DIP.
    c. Two button learning Security+ 2.0.
    d. Four button learning Security+ 2.
    e. Single button rolling code Security+ 2.0.
    f. Two button rolling code Security+ 2.0.
    g. Three button rolling code Security+ 2.0.

h. Four button rolling code Security+ 2.0.

17. Primary monitored entrapment protection:
    a. Light Curtain UL 325 approved (standard)
    b. Photo eyes, flexible housing
    c. Photo eyes, rigid housing
    d. Retro-reflective sensor system
    e. Optical edge sensing system
18. Secondary non-monitored entrapment protection:
    a. Photo eyes, rigid housing
    b. Safety edge system
    c. Photo eyes, flexible housing
    d. Light curtain
    e. Retro-reflective sensor system
    f. Optical edge sensing system
    g. Pneumatic sensing edge
19. Accessories:
    a. Red/green traffic light.
    b. Commercial/Industrial wireless keypad.
    c. Commercial access control receiver.
    d. Microwave motion detector.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine wall and overhead areas, including opening framing and blocking, with installer present, for compliance with requirements for installation tolerances, clearances, and other conditions affecting performance of Work in this Section.
B. Proceed with installation only after unsatisfactory conditions have been corrected.
C. If substrate preparation is the responsibility of another entity, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install overhead doors and track in accordance with approved shop drawings and the manufacturer's printed instructions.

3.4 PROTECTION

A. Protect installed products until completion of project.
B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION