SECTION 083616
MULTI-FOLD STACKING SECTIONAL DOOR

1.GENERAL

1. SECTION INCLUDES

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Overhead Folding Doors

2. Electric Door Operators

B. Related Work: The following items are not included in this Section and are specified under the designated Sections:

1. Section 033000 - Cast-in-place Concrete: Prepared opening in concrete. Execution requirements for placement of anchors in concrete construction.

2. Section 042000 - Unit Masonry Assemblies: Prepared opening in masonry. Execution requirements for placement of anchors in masonry wall construction.

3. Section 055000 - Metal fabrications: Steel frame and supports.

4. Section 061000 - Wood Blocking and Curbing: Rough wood framing and blocking for door opening.

5. Section 079200 - Joint Sealers: Perimeter sealant and backup materials.

6. Section 087100 - Door Hardware: Cylinder locks.

7. Section 099000 - Paints and Coatings: Field painting.

8. Section 260500 – Basic Electrical materials and Methods: installation and requirements for electrical connections.

9. Section 260500 - Wiring Connections: Electrical service to door operator.

10. National Electric Manufacturers Association (NEMA): NEMA ICS 4 – Industrial Control and Systems: Enclosures

C. References

1. AS1170.2:2002 – Structural Design Actions – General Principles.

2. AS4100-1990 – SAA Steel Structure Codes

3. AS 1288 – Glass in Buildings – Selection and Installation

4. AA-6063-T6 – Standards for Aluminum Alloy and Temper.

5. ASTM A500, Grade B - Steel Tubes

6. ASTMA 1008 – Sheet Steel for covers

7. ASTMA 36 – Steel Bars

8. ASTMA 36 – Sheet steel for Tracks/Channels

D. Performance Requirements

1. Single-Source Responsibility: Provide doors, tracks, motors and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

2. Wind Loads: Design and size components to withstand loads caused by pressure and suction of wind acting normal to plane of wall as calculated in accordance with applicable code.

a. Design pressure of _____ lb/sq ft. (_____kPa)

b. Maximum deflection of 1/120 of opening width.

2. SUBMITTALS

A. Submit under provisions of Division 013300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.

2. Storage and handling requirements and recommendations.

3. Installation manuals.

4. Owner’s Manual with service information.

C. Shop Drawings: Indicate plans and elevations including opening dimensions and required tolerances, accessories and anchors, jamb details, connection details, anchorage spacing, hardware locations, and installation details.

D. Selection Samples: For each finished product specified, two (2) samples, minimum size 2 inches (150mm) square, representing actual product, color and patterns.

E. Verification Samples: For each finish product specified, two samples representing manufacturer’s full range of available colors and patterns.

F. Manufacturer’s Certificates: Certify products meet or exceed specific requirements.

G. Operation and Maintenance Data.

H. Submit written agreement in manufacturer’s standard form signed by manufacturer and installer agreeing to repair or replace defective doors that are warped, twisted, bowed or damaged as a result of defective product.

3. QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five (5) years documented experience.

B. Installer Qualifications: Authorized representative of the manufacturer with minimum Five (5) years documented experience and/or be a factory trained and authorized installation company.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

4. DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and model.

B. Storage: Store materials in a dry area indoor and protected from damage and in accordance with manufacturer’s instructions.

C. Handling: Handle and lift all items carefully during installation to prevent damage and protect finishes.

5. PROJECT CONDITIONS

A. Pre-Installation Conference: Convene a pre-installation conference prior to commencement of field operations, to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.

B. Environmental Conditions: Prior to and during installation, environmental conditions shall be in accordance with door manufacturers latest published recommendations for temperature, rain, wind, humidity, ventilation, and illumination.

C. Site Conditions: Opening shall be free and clear of debris, stored materials, scaffolding, and temporary walls as necessary for installers to perform the installation.

6. WARRANTY

A. Warranty: Provide manufacturer's standard limited 1-year warranty against defects in material and workmanship through normal use and service according to maintenance and operation instructions, as verified by persons authorized by Renlita Doors, Renlita Doors will replace or repair (at Renlita Doors Option) the defective product.

B. Manufacturer warrants the frame against rust, in painted non-damaged condition for a period of two (1) year from original purchase. This warranty does noy apply to scratched, dented, damaged or corroded areas of the frame.

2.PRODUCTS

1. MANUFACTURER

A. Multi-Fold Doors: SkyStack by Renlita Doors North America, 903-583-7500, www.renlitausa.com.

1. Description: Vertical lifting/stacking multi-sectional door constructed from extruded aluminum sections.

a. Approved Product: SkyStack

b. No substitutions allowed.

2. Curtain: Constructed from 3 inch by 2-1/2 inch (76 mm by 63.5 mm) top and side rails and 3 inch by 2-1/2 inch (76 mm by 63.5 mm) mid rails.

3. Panels: Panels shall be secured by a glazing bead.

a. Panel Heights: As indicated on drawings.

b. Panel Heights: Even division of the open height equaling _____ rows, not to exceed 24 inches per panel height.

4. Brackets and Tracks: 2 inches (50 mm) track designed for 2” diameter rollers, minimum 0.075 inch (1.91 mm) galvanized steel.

5. Operation: Door shall be balanced using torsion springs connected to a rotating shaft.

6. Size:

a. As indicated on drawings

b. Height: _____ feet (_____ meters).

c. Width: _____feet (_____ meters).

7. Glazing: Glazed in accordance with AS1288

a. Glass: 1/4 inch (6.35 mm) laminated safety glass.

b. Glass: 1 inch (25 mm) dual pane insulated glass

c. Tempered Glass: 1/4 inch (6.35 mm).

8. Glazing Wedges: EPDM

9. Panels:

a. Single Pane: ¼ inch (6 mm) tempered safety glass

b. Insulated Glass Unit: 1 inch (25 mm) dual pane tempered insulated glass.

c. Aluminum

10. Thermal Rating/Performance:

a. Rating is dependent on glazing/cladding.

11. Ferrous Metal Finish: All surfaces except working machine parts shall receive SSPC-SP6 abrasive blast cleaning and factory-applied powder coating, AAMA 2604 or better.

12. Aluminum Finish: SSPC-SP6 abrasive blast cleaning and factory-applied powder coating, AAMA 2604 or better.

13. Finish Color: As selected from manufacturers range of standard colors.

    a. Custom color

B. Optional Motorized Screen: Bug screen/sunscreen

1. Mounting: Mounts to exterior face of door opening.

2. Operation: Integrated into Renlita touchscreen.

3. Operator: DC electric motor equipped with obstruction sensing technology. Screen will reverse upon contact with an obstruction.

4. Power Requirements: 120V AC, 60Hz, Single Phase, 2 Amps.

5. Screen Color: As selected from manufacturer's standard finishes.

C. Motors: Coordinate with Division 11 for control system and Division 16 for electrical work.

1. MODEL: LIFTMASTER 98032, Heavy duty motor direct mounted to 1 inch door drive shaft. Motor is provided with an integrated control panel and is controlled by a touch screen control station, photos eyes and hardware necessary for installation of motor.

    a. Size: 24”L x7.25”W x 8.5”H

    b. Output speed: 8.5” per second

    c. Motor Travel: Motor up and down travel is set digitally with a wired programming device.

    d. Control Station: Wall mounted smart control panel (880LMW), timer-to-close, program remote controls, myQ accessories, alert system, Wi-Fi setup.

    e. Primary Entrapment Device: NEMA 4 monitored photo sensor mounted at a maximum of 6 inches above the finished floor. Any object that enters the path of the photo sensors will cause the door to stop within 1 second and reverse to the open position.

    f. Secondary Entrapment Device: Door protector system shall monitor the door operation for obstructions during the close cycle. If the required force to operate the door increases above set limit, the motor shall stop and reverse direction. The sensitivity is set by a qualified installer during initial commissioning and shall be checked and adjusted annually.

    g. Power: 120V DC,60 Hz voltage, 1.5A current rating, 6’power cord (3 prong)

D. Accessories:

    a. 841LM Automatic Garage Door Lock

b. 485LM Garage Door opener Battery

c. 893 MAX 3 Button Visor Remote Control

E. Quality Control:

1. Factory Inspections:

a. All door frame and channel dimensions will be maintained to 1/16 inch as provided on the engineering/production drawings.

2. Factory Testing:

a. Each motor control unit will be powered up in the factory to ensure proper operation prior to shipping.

b. Each touch screen will be powered up in the factory and tested for proper orientation prior to shipping.

3.EXECUTION

1. EXAMINATION

A. Do not begin installation until the openings have been properly prepared in accordance with architectural drawings and approved shop drawings.

1. Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

2. Verify electric power is available if applicable.

B. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Notify Architect in writing of deviations from manufacturer’s recommended installation tolerances and conditions. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result under the project conditions. Commencement of installation constitutes acceptance of conditions.

2. PREPARATION

A. Clean surfaces thoroughly prior to installation. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3. INSTALLATION

A. Install doors in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.

1. Furnish inserts and anchoring devices suitable for the installation of the units and consistent with the manufacturer’s installation requirements. Coordinate delivery with other work to avoid delay.

2. Install doors, operating equipment, hardware, seals, stops, anchors, inserts, support and track in accordance with approved shop drawings and manufacturer's printed instructions.

3. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.

4. Anchor assembly to wall construction and building framing without distortion or stress.

5. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

6. Fit and align door assembly including hardware.

7. Test for proper operation and adjust until satisfactory results are obtained.

8. Coordinate installation of electrical service. Complete power and control wiring from control panel to components.

9. Test for proper operation.

4. DEMONSTRATION AND TRAINING

A. Demonstrate operation to owner's personnel. Manufacturer's representative shall instruct Owner's representative in regular tenant provided maintenance and operation of installed doors.

5. CLEANING AND ADJUSTMENT

A. Lubricate, test and adjust door assembly to smooth operation free from warp twist or distortion and in full contact with weather-stripping. Clean doors, frames and glass. Remove temporary labels and visible markings.

6. PROTECTION

A. Do not permit construction traffic through overhead door openings after adjustment and cleaning. Protect installed products until completion of project.

B. Touch-up, damaged coatings and finishes and repair minor damage before Substantial Completion.

3.7 MAINTENANCE

A. Post Installation Maintenance

B. Contractor and Installer shall provide owner with complete company name, address, phone number and assigned contact for emergency repairs and scheduled maintenance for the installed door (s)

C. Manufacturer shall instruct Owner's representative in regular tenant provided maintenance and operation of installed doors.

END OF SECTION