

SECTION 14420
VERTICAL PLATFORM LIFT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

- A. This Section includes a vertical platform (wheelchair) lifting device.
- B. Related Sections:
 - 1. Division 3 Section "Cast-in-Place Concrete" for setting sleeves, inserts, and anchoring devices in concrete.

1.3 DESCRIPTION

- A. Vertical platform (wheelchair) lifting device shall be designed to provide access to or within a building for mobility impaired persons. Lift consists of machine tower and lifting platform selected and dimensioned to provide adequate lifting height to suit building access requirements indoors and outdoors.

1.4 SUBMITTALS

- A. Product Data: For each type of lift indicated. Include rated capacities, dimensions, performances, operations, safety features, controls, and finishes.
- B. Shop Drawings: For each lift. Show plans, elevations, and details. Show interfaces with other work, including loading on structure, together with indication of required clearances.
- C. Maintenance Manuals: For each different lift. Include operating and maintenance instructions, parts list with sources indicated, recommended parts inventory list, emergency instructions, and similar information. Submit for Owner's information at Project Closeout.
- D. Inspection and Acceptance Certificates: Include operating permits as required by governing authorities for normal, unrestricted use of lifts.

1.5 QUALITY ASSURANCE

- A. Lift shall be designed, tested, and installed in compliance with applicable regulations of all governing agencies with jurisdiction and in accordance with Part XX of the ASME/ANSI A.17.1 standards.
 - 1. All load ratings and safety factors must be certified by a professional engineer. Lift shall be subject to applicable state, local and city approval prior to installation and subject to inspection after installation.

1.6 MAINTENANCE SERVICE

- A. Maintenance: Beginning at Substantial Completion, provide 12 months' full maintenance by skilled employees of the lift Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper lift operation at rated speed and capacity. Provide parts and supplies as used in the manufacture and installation of original equipment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Product/Manufacturer: Provide Porch Lift Model PL-S; manufactured by Access Industries, Inc. and complying with the following:
 - 1. Capacity: 750 lbs., with minimum safety factor of 5X.
 - 2. Maximum lifting height: 171 inches
 - 3. Platform size: Indicated on Drawings.
 - 4. Travel speed: 15 fpm maximum. Lift shall stop automatically at desired landings.
 - 5. Drive: 1:2 Roped Hydraulic full time 24V Battery Operation and dual stage AC smart charge system.
 - 6. Static Load Test: All load ratings and safety factors shall meet or exceed those specified in ASME/ANSI A17.1, Part XX Section 2000 for public buildings when installed in a hoistway and appropriately equipped, and shall be certified by a professional engineer.

2.2 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36.
- B. Steel Tubing: Either cold- or hot-formed steel tubing.
 - 1. Cold-Formed Steel Tubing: ASTM A 500.
- C. Carbon-Steel Sheet: Either cold- or hot-rolled, commercial-quality carbon steel.
 - 1. Cold Rolled: ASTM A 366.
 - 2. Hot Rolled: ASTM A 569.
- D. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653, G90 coating designation, commercial quality.

2.3 COMPONENTS

- A. Machine Tower: 14 gauge steel sheet.
- B. Base Frame: 2" x 2" x 1/4" structural steel tubing.
- C. Lift Weldment: 3/8-inch hot rolled steel plate and 2" x 2" x 1/4" structural steel tubing.
- D. Tower Cap: 7 gauge hot rolled pickled, oiled steel plate.
- E. Side Guard Panels: 22 gauge steel sheet panel in 1" x 2" x 14 gauge steel tubing frame.
- F. Front Panel: 18 gauge steel sheet.
- G. Platform: 11 gauge galvanized steel plate with slip resistant surface.
- H. Access Ramp: 11 gauge galvanized steel plate with slip resistant surface.
- I. Controls and Safety Devices:
 - 1. Platform Controls: 12 VAC ON/OFF key switch, constant pressure directional push buttons, emergency stop switch.
 - 2. Landing Controls: ON/OFF key switch and constant pressure Call/Send buttons. Call/Send controls shall be installed in upper landing gate.
 - 3. Grounded electrical system with upper, lower and final limit switches and 24 VAC operating controls.
 - 4. 15-1/2-inch automatic access ramp, 42-inch high side guard panels and non-slip platform and access ramp surfaces.
 - 5. Security key locks at controls for limited access to meet requirements of ASME/ANSI A17.1.
 - 6. Platform underpanel equipped with obstruction sensitive cut-out safety.

7. Provide 42-inch self-closing gate on platform and at top landing and/or 6'-8" flush mount 1-1/2 hour fire-rated door with self-closure and electric door strike. Electro-mechanical interlocks allow platform ascent/descent only when gates/doors are closed and locked.
8. Grab-rail on platform for rider safety.
9. Signaling device provides audio alarm that can be activated from platform or landings for emergency assistance.
10. Emergency lowering relief valve and switch on hydraulic drive to lower platform in the event of a power or component failure.
11. Protective guard at lowest level position to prevent walking underneath raised platform.

2.4 FINISH

- A. Steel Finishes: Prepare and finish iron and steel, including galvanized steel, as follows:
 1. Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 3, "Power Tool Cleaning," or SSPC-SP 6, "Commercial Blast Cleaning," followed by a conversion coating of type suited to organic coating applied over it.
 2. Prepare galvanized steel surfaces by removing dirt, grease, and other contaminants followed by a conversion coating of type suited to organic coating applied over it. Clean welds, mechanical connections, and abraded areas; and apply galvanizing repair paint to comply with ASTM A 780.
 3. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard 2-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2.0 mils (0.05 mm).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
 1. Enclose wiring within housings of units or building construction. Do not use conduit exposed to view in finished spaces.
- B. Alignment: Coordinate runway gates with platform travel and positioning, for accurate alignment and minimum clearance between platforms, runway gates, sills, and gate frames.
- C. Position sills accurately, raised slightly above adjoining floor surfaces to minimize intrusion of dirt and spillage into runway. Fill space under sills solidly with nonshrink, nonmetallic grout.
- D. Adjust stops for accurate leveling at each landing, within specified tolerances.
 1. Leveling Tolerance: 1/4 inch up or down, regardless of load and direction of travel.
- E. Lubricate operating parts of lift, including drive mechanism, guide rails, gates, safety devices, and hardware.

3.2 FIELD QUALITY CONTROL

- A. Acceptance Testing: Upon nominal completion of each lift installation, and before permitting the use of lifts, perform acceptance tests as required and recommended by the "Code" and by authorities having jurisdiction.
- B. In addition to above testing, test operate lift continuously between lowest and highest landings served, lifting full-rated capacity load for a minimum period of 30 minutes. Readjust stops and other devices and signal equipment for accurate landings and operation of system.

3.3 DEMONSTRATION

- A. Instruct Owner's maintenance personnel in the proper use, operation, and maintenance of lifts. Review emergency provisions, including access and procedures to be followed in checking for

sources of operational failures or malfunctions. Confer with Owner on requirements for a complete maintenance program.

- B. Check each lift operation with Owner's maintenance personnel present before time of Substantial Completion. Determine that control system, operating components, and safety devices are functioning properly.

END OF SECTION 14420