



Discover a World
of Opportunity™

Design & Construction Standards:
TECHNICAL GUIDELINES

Division 14
14 20 00 Elevators
14 43 00 Platform Lifts

FACILITY MANAGEMENT

April 2016

SECTION 14 20 00

ELEVATORS

PART 1 GENERAL

1.01 WARRANTY

- A. The elevator manufacturer shall provide an 24-month warranty.
- B. Warranty shall begin upon acceptance of the elevator by the Owner.
- C. DPS will verify that all elevator functions are operating prior to acceptance.

1.02 MAINTENANCE SERVICE

- A. The elevator manufacturer shall be responsible for all service and maintenance for the duration of the warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. ECCO
- B. KONE
- C. Minnesota Elevator
- D. Otis
- E. Schumacher
- F. ThyssenKrupp

2.02 EQUIPMENT

- A. Platform size:
 - 1. Platform size shall accommodate ADA requirements (minimum).
 - 2. Larger platforms may be appropriate.
- B. Type:
 - 1. Hydraulic (standard hole or “holeless”)
- C. Controls:
 - 1. Non-proprietary.
 - 2. Not patented or copyrighted.
- D. Keypad hall call stations: Mark II Elevator System, Model KE-1000, manufactured by Essex Electronics, Inc., Carpinteria, California.
- E. Emergency telephone: Wurtec Elevator Products & Service, Inc., Toledo, Ohio.
 - 1. Provide vandal-resistant telephone set with emergency pushbutton dialer, and “hands free” use for microphone/speaker concealed behind perforated panel-mounted.
- F. Elevator size and capacity:
 - 1. Minimum weight capacity 2,000 pounds
- G. Keys:
 - 1. Provide three (3) sets of elevator keys to DPS, including
 - a) Cab hall call key
 - b) Hostway vent key
 - c) Fire recall key

- d) Custodial override (run/stop) key
- e) Pit access key
- 2. A keyed switch labeled “Hostway Vent” located adjacent to Fire Department switch at primary level.
 - a) Keyed switch shall be rotating type only.

2.03 MATERIALS

A. Finishes:

- 1. Doors and door frames:
 - a) Satin finish stainless steel is preferred.
 - b) Painted steel.
- 2. Cab floor:
 - a) Vinyl composition tile (VCT) to match VCT elsewhere in building.
 - b) Carpet flooring is prohibited in elevator cabs.
- 3. Cab ceiling:
 - a) 8 foot minimum ceiling height.
 - b) Integral lighting: Fluorescent fixtures above ceiling panels.
 - c) Ceiling panels: Lay-in translucent.
- 4. Cab walls:
 - a) Brushed stainless steel.
 - b) Plastic laminate panels are prohibited.
- 5. Handrails: Stainless steel.
- 6. Accessories: Pad hooks and protective wall pads.

B. Control & Call Station Trim: Satin finish stainless steel.

PART 3 EXECUTION

3.01 INSPECTION

- A. Final inspection by the Elevator Inspector (Colorado or Denver) shall be conducted in the presence of the A/E and DPS.

3.02 DEMONSTRATION

- A. The elevator installer shall provide complete operation training for DPS staff.
- B. Training shall include (but not necessarily be limited to)
 - 1. Enabling and disabling the elevator/
 - 2. Instruction in the operation of all safety devices/
 - 3. Instruction in the activating of all “reset” devices in any part of the elevator equipment/
 - 4. Instruction in the normal operating condition and inspection of equipment to determine if maintenance is needed/
 - 5. Instruction for reprogramming the keypad access system/
 - 6. Demonstration of all fire-alarm condition functions and the reset and clearing of these functions when alarm conditions are removed

END OF SECTION 14 20 00

SECTION 14 43 00

PLATFORM LIFTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Vertical platform lift.
- B. All materials and labor necessary to complete the installation of the vertical platform lift.
- C. Obtain all information affecting work at job site. Include verification of field dimensions, anchoring and storage. Verify voltages and outlets on electrical drawings.

1.02 REGULATORY REQUIREMENTS

- A. Contractor shall be responsible for the cost and the coordination of all permits and inspections, and shall provide the certificate of inspection that grants DPS use of the vertical platform lift for the first year of operation.
- B. The vertical platform lift shall be designed and tested in accordance with ICC/A117.1, NEC and ASME A18.1 Guidelines.
- C. All designs, clearances, construction, workmanship and installation shall be in accordance with the requirements of codes having local jurisdiction. The vertical platform lift shall be subject to local, city and state approval prior to and following installation.
- D. The vertical platform lift shall comply with current ADA accessibility standards and guidelines.

1.03 QUALITY ASSURANCE

- A. Manufacturer: Company with not less than twenty (20) years of experience in the design and fabrication of vertical platform lifts.
- B. Technical Services: Manufacturer and authorized dealer shall coordinate with architects, engineers and contractors to adapt the vertical platform lift product to the design and structural requirements of the building, site, and code requirements.

1.04 SUBMITTALS

- A. Submit drawings or manufacturers literature for approval.
 - 1. Drawings shall show dimensional and wiring requirements.
 - 2. Indicate dimensioning to coordinate with existing conditions and to coordinate with the regulatory clearance requirements.
 - 3. Selection Samples: For each finish product specified requiring selection of color or finish, two complete sets of color charts representing manufacturer's full range of available colors and materials.
- B. Submit sample warranty and maintenance agreements to meet warranty and maintenance requirements.

1.05 WARRANTY

- A. The vertical platform lift shall have a four (4) year limited parts warranty on the basic unit, including all electrical and drive system components.
- B. Warranty shall begin upon acceptance of the vertical platform lift by DPS.
 - 1. The vertical platform lift Installer shall verify that all vertical platform lift functions are operating properly prior to acceptance by DPS.

1.06 MAINTENANCE

- A. The vertical platform lift shall have a four (4) year maintenance agreement that will consist of the initial 1 year maintenance agreement provided by the vertical platform lift manufacturer and installer plus three (3) additional years of maintenance provided by the vertical platform lift manufacturer and installer.
 - 1. Maintenance of the vertical platform lift unit shall consist of regular cleaning of the unit and regular inspection at intervals not longer than every 6 months. Rule 10.2.1 of ASME A18.1 requires all Vertical Platform Lifts be inspected every six (6) months by vertical platform lift installer.
 - 2. DPS shall contract and pay for the required third party inspector to meet the yearly conveyance inspection as regulated by the Colorado Department of Labor & Employment – Division of Oil & Public Safety Conveyance Section.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate the vertical platform lift delivery, installation, and testing and inspection periods with the construction schedule.

PART 2 PRODUCTS

2.01 (STAGE LIFTS) TRAVEL DISTANCE NOT TO EXCEED 72”

- A. Acceptable Manufacturers And Installation/Maintenance Contractors:
 - 1. Savaria, Model V1504, as distributed, installed, and maintained by:
 - H.E.S. Elevator Services, Inc.
 - Contact: Kim Buckley
 - Phone: 303-322-3271
 - Email: info@heselevatorservices.com
 - 2. Genesis Opal, Model GVLOP 42, as distributed, installed, and maintained by:
 - Morning Star Elevator
 - Contact: Ed Bruno
 - Phone: 303-623-7433
 - Cell: 303-217-6786
 - Email: ed@mselevator.com
 - 3. No substitutions shall be considered unless written request for approval has been submitted, received, and approved by the architect.

Each substitution request shall include the name of the material for which it is to be substituted and a complete description of the proposed substitutions including drawings, performance and test data, a list of projects similar in scope, photographs of existing installation, design differences, and other information necessary for evaluation.
- B. System Description
 - 1. The product described herein is a vertical platform lifting device consisting of a hydraulic tower with lifting platform, selected and dimensioned to provide adequate lifting height to suit the individual building requirements. The lift can be used either indoors or outdoors to vertically transport a wheelchair user or mobility impaired person up and over a barrier, thus creating access to or within a building.
 - 2. Performance
 - a. Rated Load: 750 pound capacity
 - b. Travel Speed: 20 feet per minute
 - c. Lifting Height: 48 inches, with an optional 72 inch maximum

- d. Platform Size: 38" x 54" (min.) standard with optional sizes to meet site requirements.
- e. Platform Surface: Non skid

C. Fabrication

1. The platform shall be constructed of 12-gauge minimum zinc clad steel with safety glass inserts. If the vertical platform lift is not installed in a 3-inch deep pit, a stationary ramp shall be provided that extends under the lower landing door. Written prior approval from architect and DPS shall be required if the lower landing door is replaced by a lower landing gate.
2. The platform side panels in Stage Lift must be 42" high minimum. Side panel framework shall be a minimum of 1" x 1½" steel or aluminum. Solid infill panels shall be a minimum of 18-gauge zinc clad steel. Framed safety glazed panels shall be provided where shaft walls are not required.
 - a. Platform side panels in Floor to Floor Lifts shall be 42" high minimum stainless steel with a brushed finish. Framed safety glazing shall be provided where shaft walls are not required.
3. The mainframe support tubing shall be a combination of square and rectangular steel tubing with a minimum 120 wall thickness.
4. The carriage platform supports shall be a minimum of 1" x 2" steel flat bar and carriage uprights shall be a minimum of ½" thick steel flat bar uprights. Cam rollers shall be used for axial carriage guidance and cam followers with wear pads shall be used for horizontal stability. Cam rollers shall be supported by a minimum 6.25#/ft. "T" rail.
5. All loaded fasteners shall be grade five or higher. Locking fasteners shall be used in all critical locations.
6. The removable machine tower sides shall be constructed of 18 gauge zinc clad steel, front and back covers of a minimum of 18 gauge zinc clad steel minimum. The machine tower shall be one piece. Alternatively, the tower can be split at 69" from the bottom.
7. The drive means shall be 1:2 roller chain hydraulic equipped with a type "A" instantaneous slack chain safety device. The safety device linkage shall be made of stainless steel.
8. The hydraulic connections shall be metal and have rated pressures that withstand the working pressure with the appropriate safety factor.
9. The operating control circuit shall be 24 volt.
10. The finish coating shall be electro statically applied powder coating, oven baked to cure.
11. The control system and optional batteries shall be serviceable with platform at bottom landing without the requirement to remove platform side panels.
12. The color shall be selected from manufacturer's standard colors.
13. A constant pressure up/down control switch shall be installed at each landing level and on the platform. The landing control up/down switch shall be key controlled at each landing.
14. When the vertical platform lift is not installed with a runway enclosure, the platform shall be equipped with an obstruction panel that will stop the downward travel if an obstruction is encountered.
15. An emergency stop / illuminated alarm switch shall be provided on the car as a means of signaling for assistance in the event of an emergency.
 - a. The alarm shall also sound if a gate/door lock fails to latch.
16. A grab rail shall be provided on the platform.
17. The lift shall use 110V single phase 20 amp 60Hz as its standard power supply.
18. The hydraulic pump unit shall include a motor, gear type.
19. A landing door with a minimum height of 42" and a combination mechanical lock with a positive opening electric contact shall be provided at the upper landing. Cylinders shall be "interchangeable core" cylinders (I-Core) with restricted keyway as designated by DPS Structural Department only.

20. A landing door with a combination mechanical lock with a positive opening electric contact shall be provided at the lower level. The height and type shall depend on model, code requirements, and the location requirements dictated by DPS Standards and approved by DPS. Cylinders shall be “interchangeable core” cylinders (I-Core) with restricted keyway as designated by DPS Structural Department only.
 - a. Landing door height to be 80” with 42” minimum landing gate only permitted at stage locations as approved in writing in advance by DPS.
21. A manual lowering device shall be located at lower landing.
22. The vertical platform lift shall be assembled and tested in the factory before shipment to the job site.

D. Accessories

1. Battery backup 24VDC shall be provided for standby raising and lowering.

2.02 FLOOR TO FLOOR LIFT - TRAVEL DISTANCE NOT TO EXCEED 14’

A. Acceptable Manufactures And Installation/Maintenance Contactors

1. Savaria Model V1504, as distributed , installed and maintained by:

H.E.S. Elevator Services, Inc

Contact: Kim Buckley

Phone: 303-322-3271

Email: info@heselevatorservices.com

2. No substitutions shall be considered unless written request for approval has been submitted,
3. received, and approved by the architect.
4. Each substitution request shall include the name of the material for which it is to be substituted and a
5. complete description of the proposed substitutions including drawings, performance and test data, a
6. list of projects similar in scope, photographs of existing installation, design differences, and other
7. information necessary for evaluation.

B. System Description

1. The product described herein is a vertical platform lifting device consisting of a hydraulic tower with lifting platform, selected and dimensioned to provide adequate lifting height to suit the individual building requirements. The lift can be used either indoors or outdoors to vertically transport a wheelchair user or mobility impaired person up and over a barrier, thus creating access to or within a building.
2. Performance:
 - a. Rated Load: 750 pound capacity.
 - b. Travel Speed: 20 feet per minute.
 - c. Lifting Height: 14’ maximum travel distance.
 - d. Platform Size: 42”x 54” ADA Compliant.
 - e. Platform Surface: Non skid.

PART 3 EXECUTION

3.01 ACCEPTABLE INSTALLERS

- A. Contractor Qualifications: A company that is approved by the Vertical Platform Lift manufacturer.
- B. Electrical devices, services and final connections shall be by a qualified and licensed electrical contractor.

3.02 INSTALLATION

- A. The vertical platform lift shall be installed and operated in accordance with the ICC/AI 17.1, NEC and ASME A18.1 Guidelines.
- B. A dedicated 110 Volt, 20 Amp, electrical circuit with a lockable service disconnect switch shall be supplied by the electrical contractor at the job site. (Depending on local electrical codes, a G.F.I. device may be required.)
- C. Coordinate work with general contractor.
- D. Provide standard electrical connection drawings with electrical contractor who shall make the final electrical connection.
- E. The installation of the vertical platform lift shall be made in accordance with the approved plans and specifications and the manufacturers installation instructions.

3.03 FIELD QUALITY CONTROL

- A. Load the vertical platform lift to rated capacity and test for several cycles to insure proper operation. No mechanical failures shall occur and no wear that would adversely affect the reliability of the unit shall be detected.

3.04 INSPECTION

- A. Final inspection shall be conducted in the presence of the Architect and the DPS staff.

3.05 DEMONSTRATION

- A. The vertical platform lift installer shall provide complete operation training for DPS staff.
- B. Training shall include (but not necessarily be limited to) the following:
 - 1. Enabling and disabling the platform lift.
 - 2. Instruction in the operation of all safety devices.
 - 3. Instruction in the activation of all “reset” devices in any part of the platform lift equipment.
 - 4. Instruction in the normal operation and inspection of the vertical platform lift so that DPS staff can determine if maintenance is required.

END OF SECTION 14 43 00