



SECTION 14423

INCLINE WHEELCHAIR LIFTS

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Commercial inclined platform lift for straight stairways. (Delta)

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Anchor placement in concrete.
- B. Section 04800 - Masonry Assemblies: Anchor placement in masonry.
- C. Section 06100 - Rough Carpentry: Blocking in framed construction for lift attachment.
- D. Section 09260 - Gypsum Board Assemblies: Stair walls.
- E. Section 13650 - Fire Alarm System: Building Fire Alarm Integration system to connect the lift control system with the building fire alarm system.
- F. Division 16 - Electrical: Electrical power service and wiring connections.
- G. Division 16 - Electrical: Concealed low voltage control wiring.
- H. Division 16 - Electrical: Intercom and wiring.

1.3 REFERENCES

- A. ASME A17.5 - Elevator and Escalator Electrical Equipment.
- B. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
- C. ASME A18.1 - Section 6, Private Residence Inclined Platforms.
- D. CSA B44.1 - Elevator and Escalator Electrical Equipment.
- E. CSA B355 - Lifts for Persons with Physical Disabilities.
- F. CSA B613 - Private Residence Lifts for Persons with Physical Disabilities.
- G. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- H. ADDAG – American with Disabilities Act & Architectural Barriers Act
- I. NFPA 70 - National Electric Code.

J. CSA - National Electric Code.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Submit manufacturer's installation instructions, including preparation, storage and handling requirements.
 - 2. Include complete description of performance and operating characteristics.
 - 3. Show maximum and average power demands.
- C. Shop Drawings:
 - 1. Show typical details of assembly, erection and anchorage.
 - 2. Include wiring diagrams for power, control, and signal systems.
 - 3. Show complete layout and location of equipment, including required clearances.
- D. Selection Samples: For each finished product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finished product specified, two samples, representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm with minimum 5 years documented experience in manufacturing of inclined wheelchair platform lifts.
- B. Installer Qualifications: Firm licensed to install equipment of this scope, with evidence of experience with specified equipment. Installer shall maintain an adequate stock of replacement parts and have qualified people available to ensure timely maintenance and call back service at the project site.

1.6 REGULATORY REQUIREMENTS

- A. Provide platform lifts in compliance with:
 - 1. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
 - 2. ASME A17.5 - Elevator and Escalator Electrical Equipment.
 - 3. NFPA 70 - National Electric Code.
- B. Provide platform lifts in compliance with:
 - 1. CSA B355 - Lifts for Persons with Physical Disabilities.
 - 2. CSA B44.1/ASME A17.5 - Elevator and Escalator Electrical Equipment.
 - 3. CSA - National Electric Code

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store components off the ground in a dry covered area, protected from adverse weather conditions.

1.8 PROJECT CONDITIONS

- A. Do not use wheelchair lift for hoisting materials or personnel during construction period.

1.9 WARRANTY

- A. Warranty: Provide a three (3) year limited warranty covering replacement of defective parts and excluding labor. Preventive maintenance agreement required.

1.10 MAINTENANCE SERVICE

- A. Furnish service and maintenance for elevator system and components for the following period from Date of Substantial Completion.
 - 1. One year.
 - 2. Two years.
 - 3. Three years.
 - 4. Four years.
 - 5. Five years.
- B. Include systematic examination, adjustment, and lubrication of elevator equipment. Repair or replace parts whenever required. Use parts produced by manufacturer of original equipment. Replace wire ropes when necessary to maintain required factor of safety.
- C. Provide emergency call back service for this maintenance period.
- D. Perform maintenance work using competent and qualified personnel approved by elevator manufacturer or original installer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Savaria Inc.:2 Walker Dr, Brampton, Ontario, L6T 5E1. Toll Free: 800-661-5112. Tel: (905) 791-5555. Fax: (905) 791-2222 Email: info@savaria.com Web www.savaria.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 COMMERCIAL INCLINED PLATFORM LIFT FOR STRAIGHT STAIRWAYS

- A. Inclined Platform Lift: Savaria Stair-Lift, Model Delta inclined platform lift for straight stairways. Lift consists of a universal tubular guide rail system, a power folding platform that is moved along the guide rails by a rack and pinion drive system, overspeed safety system and call stations at each landing. Conform to the following design requirements:
 - 1. Application: Indoor
 - 2. Platform Load Rating:
 - a) 550 lb (250 kg), with minimum safety factor of 5.
 - b) 660 lb (300 kg) (Optional in USA only)
 - 3. Travel Distance (nose to floor): _____
 - 4. Travel Speed: 20 fpm (0.1 m/s) nominal
 - 5. Platform Deck: Surface shall be slip resistant
 - 6. Platform Size: (ADA Compliant): 30.50 in (775 mm) wide by 49.20 in (1250 mm) long.
 - 7. Platform Configuration:
 - a. Straight through platform
 - b. 90 degree platform (Three Sided)
 - 8. Platform Operation:
 - a. Automatic Fold: Power folded and unfolded electrically from the call station using a constant pressure push button.
 - b. Emergency Manual Fold: When unit is left in the open position, platform may be manually folded in any location and retained in closed position.
 - 9. Under Platform Obstruction Sensing:

- a. Provide an under platform sensing device to stop the platform from traveling in the downward direction when encountering 15 lb (70 N) of pressure.
 - b. Platform is permitted to travel in the opposite direction of obstruction to allow clearing.
10. Passenger Restraining Arms:
- a. Platform equipped with retractable passenger restraining arms in compliance with ASME A18.1a.
 - b. Arms stop moving when an obstruction is encountered.
 - c. Provide with means to manually unlock and open the restraining arms for passenger emergency evacuation.
 - d. Arms are power folded and unfolded electrically from the call stations or platform controls.
 - e. Arms mounted 39 in (990 mm) above the platform deck. When in guarding position the arms are located above the perimeter of the platform.
 - f. The gaps between ends of arms shall not exceed 4 in (100 mm).
 - g. When platform folds, passenger restraining arms shall fold down and be covered by the folded platform.
11. Boarding Ramps:
- a. Provide boarding sides of platform with retractable ramps positioned for travel at a height of 6 in (152 mm) measured vertically above the platform deck.
 - b. Lock ramps in their guarding positions during travel. When the platform is at the landing, only the retractable ramp servicing the landing shall be operable.
 - c. Ramps shall be power folded and unfolded mechanically.
 - d. Retractable ramps, in the guarded position, shall withstand a force of 125 lb (556 N) applied on any 4 in (100 mm) by 4 in (100 mm) area. This force shall not cause the height of the ramp, at any point in its length, to be less than 6 in (152 mm) measured vertically above the platform deck.
 - e. Provide a means to manually unlock the ramps for emergency evacuation when platform is located at a landing.
 - f. Provide with a directional obstruction sensitive device on the travel direction side end of the platform to stop lift when an obstacle of 15 lbf (70 N) is encountered. Platform is permitted to travel in the opposite direction of obstruction to allow clearing.
12. Platform Side Wall:
- a. Provide non-boarding and non-guide-rail side of the platform with a sidewall of not less than 6 in (152 mm) in height, measured vertically from the platform deck.
13. Hand Grips:
- a. Equip platform with one handgrip centered on the platform at 36.50 in (925mm) and 17 in (432mm) long
14. Clearance Dimensions:
- a. When folded platform shall not protrude more than 17.50 in (445 mm) from mounting surface. (Measurement based on a wall mounted unit)
 - b. When unfolded and in use straight platform shall not protrude more than 39.75 in (1010 mm) from wall from mounting surface. (Measurement based on a wall mounted unit)
 - c. When unfolded and in use 90 degree platform shall not protrude more than 44 in (1120 mm) from wall from mounting surface. (Measurement based on a wall mounted unit)
15. Controls:
- a. Platform Controls: 24 V Low Voltage type.
 - b. Platform equipped with emergency stop switch located within reach of the passenger 43 in (1090 mm) above platform deck. When activated emergency stop button shall cause electric power to be removed from the drive system stopping lift immediately.
 - c. Operating controls shall be two separate constant pressure buttons with directional arrows on a removable hand pendant device with emergency stop

- button.
 - d. When platform arrives at landing the user keeps pressing the directional button and the passenger restraining arms and boarding ramp shall unfold automatically allowing passenger to disembark.
 - e. Platform shall be equipped for:
 - 1) Keyed operation.
 - 2) Keyless operation.
 - 16. Passenger Seat: Fold-down type with safety belt. Minimum rated load of 250 lb (115 kg). The seat will fold up automatically when platform is being folded from call station.
 - 17. Side Loading Platform: Provide with automatic folding ramps at boarding sides of platform.
 - 18. Attendant Hand Held Pendant Control: Provide with plug-in socket on platform control panel.
 - 19. Carriage Mounted Audio-Visual Alert: Provide audio-visual alert that sound while the lift is in operation and are visible by pedestrian traffic from all flights and landings.
 - 20. Platform On Board Emergency Alarm: Provide platform with on board alarm that sounds when emergency stop button is pushed.
 - 21. Under Carriage Sensing: Provide bottom of platform hanger with a sensing plate to stop the platform from traveling in the downward direction when encountered with 15 lb (70 N) of pressure. It shall be possible to drive the platform away from the obstruction.
 - 22. Side of Carriage Obstruction Device: Provide a sensor that detects obstructions in the path of the side of the hanger. Lift shall stop immediately and not travel until the obstruction is removed. It shall be possible to drive the platform away from the obstruction
- B. Drive and Guide Rail System:
1. Operation:
 - a. Motor: 0.67 hp (0.50 kW) 24VDC electric motor with an integrated brake.
 - b. Required power for battery charger: 100-240 VAC, single phase, 50/60 hz on a dedicated 15 amp circuit.
 - c. Power Transmission: Worm gear reduction to a pinion moving on a fixed gear rack.
 - d. Locate drive and associated control devices within the platform conveyance.
 - e. Provide an upper final limit switch to stop the lift in the event of a failure of the normal limit switch.
 2. Guide Rail System:
 - a. Universal guide rail system consisting of:
 - 1) Upper Rail: Hollow circular tube 1.625 in (41 mm) diameter with 5/32 in (4 mm) thickness.
 - 2) Lower Rail: Solid circular tube 1.625 in (41 mm) diameter with integrally machined zinc plated gear rack.
 - b. Rail Mounting:
 - 1) Rails directly mounted to the stairway wall.
 - 2) Mount rails to steel support posts secured to the lower landing floor and stair treads. Support posts shall be 3 in (75 mm) by 2 in (50 mm) hollow structural steel.
 - c. Provide a mechanical stop at the upper landing to prevent over-travel of the drive carriage in the event of a switch failure.
 3. Provide overspeed governor and brake on carriage drive, containing mechanical overspeed sensor and lock, with electrical drive cut-out protection.
 4. Equip drive with an emergency manual lowering system with kill switch when emergency manual lowering system is engaged.
 5. Battery Operation:
 - a. Provide a battery system for normal up/down lift operation during a power failure for a minimum of five (5) trips with rated load.

- C. Call Stations:
 - 1. Provide wireless surface mounted call stations at both landings.
 - 2. Call station operating voltage 3V.
 - 3. Call stations low voltage with four control buttons: platform fold, platform unfold and two directional call and send buttons.
 - 4. Call stations shall be equipped for:
 - a. Keyed operation.
 - b. Keyless operation.

- D. Finish:
 - 1. Design and fabricate lift to manufacturer's standard design for indoor locations.
 - a. Steel components shall be painted with electrostatically applied and baked powder coat as follows:
 - 1) Fine Textured Light Grey (RAL 7035).
 - 2) Custom color as selected by Architect from manufacturer's color chart.
 - b. Electrical printed circuit boards and control transformers to be treated with a conformal coating for resistance to ambient moisture.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify required supports are correct.
- C. Verify electrical rough-in is at correct locations.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. 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 units in accordance with in compliance with regulatory requirements specified and the manufacturer's instructions.
- B. Install system components and connect to building utilities.
- C. Accommodate equipment in space indicated.
- D. Startup equipment in accordance with manufacturer's instructions.
- E. Adjust for smooth operation.

3.4 FIELD QUALITY CONTROL

- A. Perform tests in compliance with regulatory requirements specified and as required by authorities having jurisdiction.
- B. Schedule tests with agencies and Architect, Owner, and Contractor present.

3.5 PROTECTION

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

END OF SECTION