



SECTION 14202

ELEVATORS AND LIFTS

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PART 1. GENERAL

1.1 SECTION INCLUDES

- A. Commercial LU/LA elevator.

1.2 RELATED SECTIONS

- A. Division 16 Sections for electrical service for elevators to and including disconnect and fused switches at machine room.
- B. Division 16 Sections for standby power source, transfer switch, and connection from auxiliary contacts in transfer switch to controller.
- C. Division 16 Section "Voice and Data Communication Cabling" for telephone service to elevators.
- D. Section 03300 - Cast-in-Place Concrete: Concrete for elevator machine foundation, and pit.
- E. Section 06100 - Rough Carpentry: Hoistway framing, building-in hoistway door frames and overhead hoist beams.
- F. Section 08210 - Wood Doors: Hoistway doors.
- G. Section 08710 - Door Hardware.
- H. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
- I. Section 09650 - Resilient Flooring: Floor finish in cab.
- J. Section 09686 - Carpet: Floor finish in cab.
- K. Section 09900 - Paints and Coatings: Interior transparent wood finish in cab.
- L. Section 13850 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.

1.3 REFERENCES

- A. American National Standards Institute (ANSI) B-29.2 - Chain Standards for Inverted Tooth (Silent) Chains and Sprockets.

- B. American Society of Mechanical Engineers (ASME) A17.1 - Safety Code for Elevators and Escalators.
- C. American Society of Mechanical Engineers (ASME) A18.1 - Safety Standard for Platform and Stairway Chair Lifts.
- 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. U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)".
- H. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- I. NFPA 70 - National Electric Code.
- J. CSA - National Electric Code.

1.4 REQUIREMENTS OF REGULATORY AGENCIES:

- A. Fabricate and install work in compliance with applicable jurisdictional authorities.
- B. File shop drawings and submissions with local authorities as the information is made available. Company pre-inspection and jurisdictional authority inspections and permits are to be made on timely basis as required.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- 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 methods.
- C. Shop Drawings: Provide a complete layout of lift equipment detailing dimensions and clearances as required.
- D. 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 patterns.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications:
 1. Skilled tradesmen shall be employees of the installing contractor approved by the manufacturer, with demonstrated ability to perform the work on a timely basis.
 2. Execute work of this section only by a company that has adequate product liability insurance.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install systems under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Coverage - this warranty applies to the repair or replacement, at Manufacturer's option, of parts that fail due to defective material or workmanship. Manufacturer may, at its option, provide factory reconditioned parts. This warranty is provided to the Authorized Dealer on behalf of the final purchaser of the product and is not transferable. The Manufacturer's warranty does not cover labor charges for the removal, repair or replacement of warranty parts but such costs may be covered for a period of time by Authorized Dealer's warranty, which is provided to purchaser separately.

1. The manufacturer shall offer a 36-month limited warranty on parts from date of shipment.

PART 2. PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Savaria, which is located at: 2 Walker Drive, Brampton, ON, Canada, L6T 5E1; Toll Free Tel: 800-661-5112; Tel: 905-791-5555; Fax: 905-791-2222; Email: [request info](#); 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 PASSENGER ELEVATOR

- A. Limited Use Limited Application elevator: Savaria Orion.
- B. Work described in this section includes providing equipment, incidental material and labor required for complete, operable roped hydraulic passenger elevator installation. Elevator shall be erected, installed, adjusted, tested and placed in operation by system manufacturer, or manufacturer's authorized installer.
 1. Elevators shall be in accordance with the ASME A17.1-B44 and ADA compliant including local codes and regulations except where specified otherwise.
- C. The following preparatory work to receive the lifts specified in this section is part of the work of other sections:
 1. Permanent 240 VAC, 40 amp single phase or 208 VAC, 30 amp three phase power to operate lift to be provided from a lockable fused/cartridge type disconnect switch with auxiliary contacts for battery operation. 110 VAC, 15 amp single phase power to operate the lighting circuit. Refer to drawings for permanent power specifications and location of disconnects.
 2. Provide a plumb and square hoistway with smooth interior surfaces, including

- fascias or furring of the hoistway interior.
 - 3. Provide rough openings per lift contractor's shop drawings.
 - 4. Provide substantial, level pit floor slab as indicated on the lift contractor's shop drawings.
- D. Limited Use Limited Application elevator: The elevator described here, manufactured by Savaria Lifts Inc., is a LULA Elevator consisting of a roped hydraulic tower with a lifting platform.
 - 1. Rated Load: 1400 lb (635 kg)
 - 2. Rated Speed: 25 f.p.m. (nominal) (0.13 m/s)
 - 3. Travel: _____ feet. Maximum of 25 feet (300 inches).
 - 4. Cab Configuration:
 - a. Enter/exit same side.
 - b. Enter/exit front/rear.
 - c. 90 degree exit.
 - 5. Car Platform Size:
 - a. 48" W by 54" D (1219 mm by 1371 mm) – N/A for 90 degree configs
 - b. 42" W by 60" D (1067mm by 1524 mm) – N/A for 90 degree configs.
 - c. 51" W by 51"D (1295 mm by 1295 mm) – 90 Degree only.
 - 6. Levels Serviced:
 - a. 2
 - b. 3
 - c. 4.
 - 7. Car Operation: Automatic.
 - 8. Power Supply:
 - a. 208 Volt, 3 Phase, 30 Amps + 110 Volt, 15 amp, 1 Phase 60 Hz
 - b. 240 Volt, 1 Phase, 40 Amp + 110 Volt, 15 amp, 1 Phase 60 Hz
 - 9. Drive System: 2:1 roped hydraulic.
 - 10. Emergency Power: Battery operation in down direction
 - 11. Controller: PLC
 - 12. Motor/Pump: 240 1 Phase or 208 3 Phase,/ 5HP
 - 13. Manual Lowering: Outside the hoistway in machine room.
- E. Car Enclosure: Fire rated steel cab construction.
 - 1. Cab Walls:
 - a. Steel - Architectural White (standard)
 - b. Steel - Black (Standard)
 - c. Stainless Steel Brushed #4 (optional)
 - 2. Optional Plastic Laminate Panels:
 - a. No Plastic Laminate Panels - Steel Cab Only (standard)
 - b. Stone Grafix
 - c. Fog
 - d. Contract Mahogany
 - e. Natural Oak
 - 3. Ceiling Finish:
 - a. Steel - Architectural White with four recessed incandescent down lights.
 - b. Stainless Steel brushed #4 (optional)
 - 4. Car doors and frames shall be 1 1/2 hour ULC Fire rated and 2 speed horizontally sliding.
Door finish shall be:
 - a. Powder coated Architectural white or black to match cab finish
 - b. Stainless Steel brushed #4 (optional)
- 1. Handrail: A stainless steel single handrail, with 1-1/2 inch (38 mm) diameter rail and with both ends returned to the side guard, shall be located on the

control wall of the cab.

- F. Automatic Landing Doors
 - 1. Landing doors and frames shall be 1 1/2 hour ULC Fire rated, 2 speed horizontally sliding with concealed mechanical interlock.
Door finish shall be:
 - a. Primed powder coated grey (Standard)
 - b. Powder coated Architectural white or black to match cab finish (optional)
 - c. Stainless Steel brushed #4 (optional)
- G. Car Operation:
 - 1. Car Operating Panel shall consist of metal push bottoms with illuminated haloes, tactile identifications, emergency stop/alarm button, on/off key switch and emergency light mounted on a removable stainless steel panel (Type 304 #4 Stainless Steel Finish).
 - 2. Digital floor indicator and directional indicator in cab and at each landing.
 - 3. An ADA hands free phone will be supplied within car operating panel.
 - 4. Emergency Operation - The car shall be equipped with a battery operated light fixture, emergency battery lowering device and alarm in case of normal building supply failure. The battery shall be the rechargeable type with an automatic recharging system. A manual lowering device shall be located outside the hoistway in the machine room.
 - 5. Fire Service:
 - a. No fire-service required (standard)
 - b. Phase 1 fire recall service only (optional) - mandatory for 2010 A17.1 code.
 - c. Phase 1 and Phase 2 fire recall service (optional).
- H. Pumping Unit and Controller:
 - 1. The pumping unit and controller shall be in a separate machine room. The controller and pump unit shall be pre-wired and tested prior to shipment. Pump unit shall incorporate the following features:
 - a. Smooth stops at each landing.
 - b. Submersible pump and motor.
 - c. Adjustable pressure relief valve.
 - d. Manually operable down valve to lower lift in the event of an emergency. This valve shall be activated from the machine room.
 - e. Gate valve to isolate cylinder from pump unit.
 - f. Emergency lowering by battery power from the car control
- I. Cylinder And Plunger:
 - 1. The cylinder shall be constructed of steel pipe of sufficient thickness and suitable safety margin. The top of the cylinder shall be equipped with a cylinder head with an internal guide ring and self-adjusting packing.
 - 2. The plunger shall be constructed of a solid steel shaft of proper diameter machined true and smooth. The plunger shall be provided with a stop electrically welded to the bottom to prevent the plunger from leaving the cylinder
 - 3. Cable: Aircraft Cable 2 X 3/8" (10 mm) DIA. Minimum breaking strength of 12,000 lb (5455 kg) each.
- J. Leveling Device:
 - 1. The lift shall be provided with an anti-creep device which will maintain the carriage level within 1/2 inch (12 mm) of each landing.
 - 2. All limit switch and leveling device switches shall be located in a position to be inaccessible to unauthorized persons.

- K. Guide Yoke: The 2:1 guide yoke assembly shall be supplied with one (1) sheave, guide shoes, bearings and guards.
- L. Terminal Stopping Devices: Normal terminal stopping devices shall be provided at top and bottom of runway to stop the car positively and automatically.
- M. Guide Rails and Brackets: Steel 8 lb per ft guide rails and adjustable brackets shall be used to guide the platform and sling.
- N. Wiring: All wiring and electrical connections shall comply with applicable codes. Insulated wiring shall have flame-retardant and moisture-proof outer covering and shall be run in conduit or electrical wire ways if located outside the unit enclosure. Quick disconnect harnesses shall be used when possible.

PART 3. EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until hoistway and machine room has been properly prepared.
- B. Site dimensions shall be taken to verify that tolerances and clearances have been maintained and meet local regulations.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding. 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 ELEVATOR INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install the components of the elevator system that are required and that are required by jurisdictional authorities to license the elevator.
- A. Trained employees of the elevator contractor shall perform installation work.
- B. Adjust elevator for proper operation and clean unit thoroughly.
- C. Instruct users in operating procedures and owner's maintenance person in troubleshooting and maintenance procedures.

3.4 LIFT INSTALLATION

- A. Install all the components of the lift system that are specified in this section to be provided, and that are required by jurisdictional authorities to license the lift.
- B. Trained employees of the lift contractor shall perform all installation work of this section.
- C. Adjust lift for proper operation and clean unit thoroughly.
- D. Instruct users in operation procedures and Owner's maintenance person in troubleshooting and maintenance procedures.

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