

142000 Elevators and Lifts

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PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

- A. Comply with all relevant code requirements, including provisions for the disabled under Florida Building Code, Chapter 11 Accessibility Code for Building Construction (Section 11-4.10).
- B. New installations shall use conventional hydraulic elevators, geared traction elevators driven by AC electric motors, or “hole-less” elevators. Exceptions to this requirement must be approved through the **Standards variance process**.
- C. The use of non-proprietary subsystems and parts is required.

PART 2 – PRODUCTS

2.1 ELEVATORS

- A. ACCEPTABLE MANUFACTURERS: Otis, Schindler, Thyssen-Krupp
- B. **CAB FINISHES & FIXTURES**
 - 1. Stainless Steel is the standard finish for cab interiors, walls, doors and frames.
 - 2. Provide **LED** fixtures for cab lighting.
 - 3. Provide support rails on three walls of the elevator cab.
 - 4. All exposed screws inside the cab shall be tamperproof.
 - 5. Provide lighted, vandal proof, stainless steel buttons.
- C. **PITS & HOISTWAYS**
 - 1. Conduit or plastic pipe shall not be installed in pits, hoistways, or machine rooms. Only metal sump pump discharge lines are allowed in pits and hoistways.
 - 2. Elevator pits 4'-0” deep or more shall be provided with a permanent metal ladder, extending at least 30” above the access floor, **with** a rung at the top for a hand grip.

3. A moisture-proof light shall be provided in each pit with a switch located as to be accessible from pit entrance and adjacent to pit stop switch. Install two sealed, watertight 4' fluorescent bulb light fixtures in all elevator pits (one fixture per side).
4. Beams, floor slabs, or other building **structure** shall not project more than 2" inside the general line of the hoistway unless the topside of the projection is beveled at an angle of not less than 75 degrees.
5. Hoistways for elevators serving more than three floors shall be vented to outside air to prevent accumulation of smoke or gases. **Vents** shall be not less than three and one-half percent (3.5%) of the area of the hoistway **or** three (3) square feet for each elevator, whichever is greater. Vents and frames shall be of noncombustible material. All vent openings shall reject a ball two (2) inches in diameter and may be covered with a screen.
6. All nails, snap-ties, form straps, and wood shall be removed from hoistway, machine room walls, and ceiling.

D. ELECTRICAL REQUIREMENTS

1. Provide **grounded** duplex receptacles in machine rooms and pits.
2. Main line switches for elevators shall be of the fused type and shall provide means of locking the switch in the open position. Fuses in the main line disconnect switch shall be "Class K5" or "Class R". Fuses shall be properly sized for the load and rating of the disconnect switch.
3. Main line feeder wires shall be phase identified in the main line switch and also at terminals of controllers.
4. All elevator equipment shall include solid state power control systems, not motor control systems.

E. OPERATING FEATURES

1. All elevators shall be equipped with automatic leveling devices.
2. Elevator doors shall be provided with infrared safety strips equal to Janus Pana 40. The use of photo eyes is prohibited.
3. Top and side emergency exits shall have contacts that stop the cab and ring a bell.
4. Side emergency exits shall be key locked from inside the cab and shall not open from outside the cab.
5. The emergency stop switch shall have an alarm bell connected to it that includes a bell mounted under the platform and a bell located at the main floor lobby.
6. The cab control panel shall include no buttons other than the alarm, open door (and hold open), close door and floor buttons. Any other switches required for operation of the elevator shall be either key operated or contained in a separate cabinet having a locked door, including light and fan switches.

7. In addition to the load-weighing device, provision shall be made to ring a bell and light a light if the cab is overloaded beyond 120% of normal capacity.
8. Fireman's Recall feature shall be compatible with the building Fire Alarm system.
9. Elevators in the Health Science Center facilities are to be provided with an emergency intercom with call button, mounted in accordance with Florida Accessibility Code requirements, connected to the Centrex/UPD Monitoring Center in lieu of an emergency phone.
10. Center parting doors or two speed are preferred for all openings 36" or greater in width, when applicable.
11. Provide battery backup for each elevator so it can return to the ground floor and safely discharge its passengers in the event of a building power failure.

F. HYDRAULIC ELEVATORS

1. No underground hydraulic oil lines.
2. Oil line shall have two shutoff valves – one at the pumping unit, and one in the pit at the jack.

2.2 **ELEVATOR MACHINE ROOMS**

- A. All elevator machine rooms shall be conditioned and maintain a temperature range of 75-80F at all times.
- B. The HVAC equipment for conditioning elevator machine rooms shall be part of and connected to the building's infrastructure system(s).
- C. Hydraulic elevator machine rooms shall be adjacent to the hoistway.
- D. Stairways for access to elevator machine rooms shall be metal and shall conform to the following:
 1. Maximum angle of sixty degrees from the horizontal.
 2. Stair treads shall not be less than 28" in length.
 3. Stair treads shall be level and not less than 6" in width with slip resistive surface.
 4. The rise shall not be less than 8" or more than 10".
 5. There shall be no more than 14' in an unbroken vertical rise.
 6. Stairway floor opening shall be guarded by a metal railing 42" in height with intermediate rail and toe board.
 7. Open sides of stairs shall be protected with a metal handrail not more than 34" in height from the upper surface of top rail to surface of tread in line with face of riser at forward edge of tread, and with intermediate rail.

2.3 **WHEELCHAIR LIFTS**

- A. ACCEPTABLE MANUFACTURERS: American Stair-Glide, National Wheel-o-vator, and Dover Accessibility Products

PART 3 – EXECUTION

3.1 CLOSEOUT DELIVERABLES

- A. As-built submittals for both new and renovated elevators and lifts shall include two (2) sets of laminated as-built wiring diagrams, block diagram, and diagnostic data, along with complete service manuals.
- B. Provide one (1) diagnostic test device or service tool, if applicable, and Miprom-HS&ST Reference Guide, Fault Codes, and Service tool if applicable. **Provide any other equipment or tool required to perform service or maintenance tasks.**
- C. Provide fireman elevator recall key and elevator door key, and secure within the elevator machine room per NFPA by means of a lockable key cabinet or box. If elevator room is located on the roof, two sets of keys are required.

3.2 SERVICE CONTRACT

- A. Shall be for 12 months starting with the date of Substantial Completion and shall comply with the Physical Plant Division's preventive maintenance program.

3.3 INSPECTION & CERTIFICATION

- A. Buildings with emergency power generators shall have generators operable at the time of initial inspection by State Elevator Inspector.
- B. Certificates of Operation from the State of Florida Division of Elevator Inspections shall be delivered to the appropriate entity prior to the project's Final Inspection:
1. Physical Plant Division Maintenance Department
17740 Radio Road, Building 702
Gainesville, FL 32611
 2. Housing and Residence Education
P.O. Box 112100
Gainesville, FL 32611
 3. IFAS
P.O. Box 110850, Bldg. 124
1390 Date Palm Rd.
Gainesville, FL 32611

3.4 OWNER TRAINING

- A. The Builder shall provide four hours of training, contained in one session, to University maintenance personnel on the proper operation and maintenance **of new elevators and lifts.**

END OF SECTION