

These guidelines are updated periodically and users are encouraged to check this site as needed for the most current edition. Comments and suggestions concerning improvements to this section of the guidelines may be submitted to the following: [cdaaroe@uncg.edu](mailto:cdaaroe@uncg.edu) or [m\\_takacs@uncg.edu](mailto:m_takacs@uncg.edu).

## **14200. ELEVATORS**

1. All multi-story buildings should be equipped with at least one elevator to allow for the movement of physically impaired persons and equipment between floors. The minimum capacity for any elevator shall be 2500 lbs.
2. In multi-story buildings, at least one elevator should serve the penthouse and/or basement mechanical equipment rooms. This elevator should be a service/hospital type.
3. For low-rise buildings, with a maximum travel distance of less than 45 feet, the use of conventional, in-ground hydraulic elevators is preferred. No telescoping hydraulic elevator systems should be used. Hole-less hydraulic elevators may be considered for travel distances less than 15 feet.
4. For buildings where the travel distance exceeds 45 feet, geared traction elevators are preferred. The use of machine room-less (MRL) elevators systems should also be evaluated for these projects.
5. A separate freight elevator should be provided in buildings, or portions of buildings, where movement of large objects, materials or heavy equipment is likely to occur on a regular basis.
6. Design elevator systems that are consistent with the program requirements of the project and fulfill the basic building functions and occupant load. For accessibility concerns in the event of an elevator malfunction, and for the general efficiency of the occupants, two elevators shall be considered for buildings of four stories or more. For added efficiency, a duplex elevator system should be evaluated when multiple elevators will be installed.
7. Elevators for parking structures and other open spaces should be designed in a sheltered area where rain and snow cannot reach the elevator entrances or hoistways.
8. For elevator modernization projects, UNCG recommends the Designer employ the services of an Elevator Consultant.
9. **DESIGN CRITERIA**
  - 9.1. Designers should obtain and use the “Elevator Specifications Guides” for hydraulic and traction elevators developed by the North Carolina Department of Labor – Elevator Division to assist them when preparing elevator specifications.

- 9.2. The major elevator components should be the products of one manufacturer of established reputation, except they may be the products, either wholly or in part, of another manufacturer of established reputation provided such items are engineered and produced under coordinated specifications. It is a requirement that any elevator manufacturer shall have their product approved by the North Carolina Department of Labor – Elevator Bureau, prior to bidding.
- 9.3. Provide non-proprietary microprocessor based elevator control systems that are serviceable and maintainable by any qualified maintenance provider. All such systems shall be free from secret codes and decaying circuits that must be periodically reprogrammed by the manufacturer.
- 9.4. The manufacturer shall furnish, and turn over to the Owner, any and all diagnostic tools and/or instruments, and all software or written operation and instruction manuals needed to use the diagnostic tools for adjusting any and all computer parameters, and/or troubleshooting the equipment provided. These diagnostic tools shall be provided at no additional cost to the Owner.
- 9.5. The Contractor shall provide the Owner’s selected representative(s) with training on the use of the diagnostic tool(s) and operation of the elevator system.
- 9.6. Auto Lowering
  - 9.6.1. The Controller should include an auto lowering system which, in the event of a power failure, will cause the car to descend to the next lowest level.
  - 9.6.2. In buildings with generator supplied emergency power, auto lowering should be accomplished using an emergency power circuit to operate the elevator auto lowering controls.
  - 9.6.3. In buildings without generator supplied emergency power, auto lowering should be powered from a storage battery.
- 9.7. Provide all required clearances and allow ample room for servicing, maintaining, and removing equipment without disassembly of the equipment.
- 9.8. Car Enclosures
  - 9.8.1. Elevator car doors should be protected by infrared screen-type detector/reversal devices at all car door entrances.
  - 9.8.2. Car light fixtures should utilize PL or T-8 type fluorescent lamps with electronic ballasts. Ballasts and all other lighting equipment should be accessible from inside the car enclosure.

9.8.3. Raised, embossed stainless steel panels for rear and side walls of cab are preferred.

9.8.4. Pads and hooks

9.8.4.1. Pads shall be fire-resistant quilted canvas conforming to ASME A17.1.

9.8.4.2. Provide pads for the rear wall, side walls and car front returns with openings for the car operating panels.

9.8.4.3. UNCG prefers protective pad hooks made of brushed finish stainless steel, vandal-resistant type and permanently mounted by the elevator Contractor at the sides, rear and fronts of the car enclosure.

9.8.4.4. Preferred floor finishes are VCT, raised design rubber floor tile, or modular carpet.

9.8.5. Car railings shall be stainless steel.

9.9. Hoistway Entrances: UNCG prefers hoistway entrances and doors made of satin finish stainless steel.

9.10. Signal and Operating Fixtures: All signal and operating fixtures should be vandal resistant stainless steel and all cover plates should be #4 brushed stainless steel.

## 10. GUARANTEES, SERVICE AND MAINTENANCE

10.1. Warranty: The elevator Contractor shall guarantee the materials and workmanship against defect due to faulty materials or faulty workmanship or negligence for a period of 12 months following the date of final acceptance of the project. Where items of equipment or material carry a manufacturer's warranty for any period in excess of 12 months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. Defective materials, equipment or workmanship shall be replaced without additional cost to the Owner within the stipulated guarantee period.

10.2. Maintenance: Starting at the date of final acceptance of the project, the elevator Contractor shall provide an all-inclusive, systematic inspection, preventive maintenance and repair program for each elevator, including 24-hour emergency callbacks for a period of 12 months concurrent with the project warranty period. The requirements of this maintenance and call-back service shall be equivalent to the provisions of the current campus-wide Full Preventive Maintenance Contract for elevators and dumbwaiters administered by UNCG Facilities Operations.

- 10.3. Use of Elevator during Construction: The Elevator shall not be used for building construction purposes unless specifically allowed by the Owner.
- 10.4. If the Contractor is allowed to use the elevator prior to substantial completion of the project, the elevator warranty and service period shall not be compromised and shall begin with the date of acceptance for the entire project as defined in the General Conditions of the Contract.

## 11. SPECIAL FEATURES

- 11.1. UNCG prefers a “hands free,” vandal resistant type telephone integral with the car operating panel and wired back to the elevator machine room. The final connection of the telephone circuit in the controller is to be made by the elevator Contractor and must be coordinated with UNCG.
- 11.2. Provide an Independent Service switch, key operated, located in each car operating panel.
- 11.3. The stop switch in the car must be wired to the alarm bell.
- 11.4. When a floor lockout key switch is required to limit access to mechanical penthouse or basement floor landing, the car operating panel shall have a factory-installed momentary contact switch capable of receiving a Corbin/Russwin cylinder matching the building lock cylinders and compatible with the University master key system.
- 11.5. Graphics indicating “In case of fire, do not use elevators, use stairways” are to be integral with, and permanently engraved on, the stainless steel face plate of the call button station at each floor.
- 11.6. In addition to any other sets required by the specifications, the Elevator Contractor shall provide one (1) set of full-sized, plastic laminated, as-built wiring diagrams. This set shall be wall mounted in the machine room. The minimum size of the wiring diagrams shall be not less than 17 inches by 21 inches.