

## **EQUIPMENT ROOMS, ELEVATOR**

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**Security / Identification:** All mechanical equipment rooms that house elevator machinery shall be lockable and securable such that access is limited to elevator mechanics employed by the University of Nebraska- Lincoln. The door serving each room shall be a fire rated door in accordance with the applicable provision of the Building Code. It shall be 42" wide, and shall swing out into the corridor. It shall be equipped with a closer, and shall have a store room function lockset that is keyed to the standard elevator machine room key. Machine room doors, pit access, and overhead access doors shall be keyed by the UNL Key Shop.

**Equipment Room Location and Access:** Entrances to elevator machine rooms shall be located off a public corridor, or through a mechanical equipment room. Entrance shall not be through an office, classroom, or rest room.

Elevator machine rooms shall not be located next to occupied spaces, classrooms, conference rooms, or offices. If, in an existing building, locating a machine room in such a location is unavoidable, the enclosure shall be constructed to restrict sound transmission to the adjacent occupied spaces.

Elevator machine rooms shall not be located underneath bathrooms or rooms with water flooding possibilities.

Hydraulic elevator machine rooms shall be located adjacent to the elevator hoist way and pit area at the lowest level of elevator travel.

Traction elevator machine rooms shall be located directly over the hoist way of the elevator served by that equipment.

**Equipment Room Size / Layout:** Machine room shall be of adequate size to comply with the size requirements of the elevator manufacturer, ASME A17.1, OSHA, and NEC. Size shall be sufficient to allow access to and around all equipment to accommodate adjustment and future repairs, such as the removal of motors and pumps. *(This is a frequently missed item)*. Clearances around all electrical equipment shall comply with NEC. Machine rooms for hydraulic elevators shall be designed so that there is a minimum of 4' to the nearest wall or door to one side of the pumping unit. See National Elevator Industry, Inc standards ([www.neii.org](http://www.neii.org)) for machine room sizes.

**Other Equipment in Machine Room (Frequently Missed Item):** "Only such electrical wiring, raceway, cables, or ductwork used *directly* in connection with the elevator shall be installed inside the machine room. Drain lines, other systems conduits or ductwork, etc. may not be installed or routed through the elevator machine room." This is per ASME A17.1, section 2.7.2.

**Coordination with Other Trades:** All electrical contractor and HVAC equipment installations shall be coordinated with the elevator installer, and shall not be installed until the location has been coordinated with the elevator contractor.

**Vibration Isolation:** In any locations where there is equipment located overhead, vibration isolation shall be provided.

**Temperature Control:** Provide air conditioning and exhaust that is independent from the building HVAC system.

ASME Code requires that the temperature within an elevator equipment room be maintained between 55 and 110 degrees F, non-condensing. Given that elevator equipment produces a substantial amount of heat, code compliant space cooling is typically required. At minimum manufacturer's specifications shall be met for all equipment.

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The most typical approach involves the use of a stand-alone cooling unit, capable of year-round operation, and provided with emergency power, where available or required by code. **Under no circumstance shall cooling equipment be located above any piece of elevator equipment.**

**Fire Rating:** Machine rooms shall have all holes and penetrations fire caulked to meet the fire rating of the machine room. This includes the ceiling, and the juncture of walls and ceiling.

**Fire Extinguisher:** Class ABC fire extinguishers shall be provided in elevator machine rooms and mounted to the wall in a location convenient to the access door – per ASME.

***Electrical Requirements:***

As stated previously, no other equipment may be installed in elevator machine rooms until the location of the equipment is coordinated directly with the elevator contractor's equipment locations.

When fire sprinklers are present in elevator machine rooms, there shall be a shunt trip circuit breaker for main line power to remove power from elevator controls before activation of sprinkler.

Elevator machine room lighting and outlets shall be supplied by a separate branch circuit.

Main line disconnect shall be located in the elevator machine room within sight of the elevator motor and controller, and adjacent to machine room entry door. There shall be one disconnect for each elevator. Clearances and labeling shall be in accordance with NEC 620.

Car lighting disconnect (one for each elevator) shall also be located in elevator machine room in accordance with NEC 620.

Additional electrical requirements are provided in technical sections of these *Standards*.

Provide a conduit and J-box connection to the elevator controller equipment enclosure for terminating the phone line with the conduit coming out of the box into the elevator equipment. This is for connection by the elevator contractor. It will allow testing of the phone line without having to get into the elevator controller.