

# 14200S02 Hydraulic and Traction Elevators

## I. GENERAL

### A. ELEVATOR STANDARD - UPDATES AND REVISIONS

This standard is to be used for design, installation, construction, and/or renovation of elevators for and in University of Kentucky buildings. It is a living document; therefore, updates will be made as conditions and/or new regulations require. Further, when a user of this standard perceives the need for revisions, additions, deletions, and/or other changes, a request for revision should be put in writing to the Campus Physical Plant Director for consideration. A request for a revision may not necessarily result in the Elevator Standard being revised.

### B. TERMS

#### 1. University Project Manager

“University Project Manager” means the individual from the Capital Project Management Division (CPMD), the Campus PPD (CPPD), or the Medical Center PPD (MC-PPD) who is designated to be in charge of the Project.

#### 2. Consultant

“Consultant” means the individual, the Elevator Consultant, the Engineer, and/or the Architect who is responsible for the design of the elevator system. The consultant may be an employee of the University of Kentucky Facilities Management Division.

#### 3. Contractor

“Contractor” means the successful bidder/firm to whom the contract to construct the elevator system has been awarded.

#### 4. “Owner”

When used, “Owner” shall mean the University of Kentucky.

### C. DEPARTMENT SPECIFIC CONDITIONS

This University of Kentucky Elevator Standard applies to a variety of conditions and types of elevators. Some specific peripheral requirements may differ between the Lexington Campus elevators and those for service in the Medical Center and/or other University Departments; however, the basic requirements of this standard shall be used in any elevator design or renovation.

### D. CODES AND REGULATOR AGENCIES

Refer to University of Kentucky Official Design Standards for General Conditions and Special Conditions for code and regulatory compliance requirements. However, it must be understood that all codes and

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requirements of Federal, State, and Local regulatory agencies are to be applied to all elevator purchases, installations, maintenance, and construction projects in University of Kentucky buildings. Some of the conditions following make reference to these; however, such limited references do not exclude University departments, the Consultant, or the contractor from fully applying all codes and regulatory requirements to University of Kentucky situations.

### E. Intent

It is the intent of these standards to provide guidelines in developing vertical transportation systems that:

1. Provide acceptable levels of elevator service as related to the Average Interval and Handling Capacity.
2. Provide safe and convenient transport of passengers and material.
3. Provide systems that meet the highest level of accessibility for people with disabilities.
4. Incorporate specifically identified standardized parts for easy maintenance and rapid repair and/or replacement.
5. Provide reliability and achieve desired lifecycle service and cost, and
6. Provide for standardized control systems and other identified equipment as chosen by the University of Kentucky thereby eliminating the installation of manufacturer proprietary equipment and controls.

### F. NON-PROPRIETARY EQUIPMENT AND CONTROLS

The University of Kentucky does not have in-house maintenance personnel and therefore relies upon contractor(s) to maintain the equipment. The maintenance contractor is acquired through a bid process and is not necessarily the original equipment manufacturer or installer. Therefore, it is required that, for specific items indicated in this standard, University of Kentucky approved and non-proprietary equipment and controls be bid and installed. Approved and acceptable non-proprietary equipment and controls are listed in the sections following. Further, all non-proprietary controls tools, passwords, equipment and training necessary to service the elevator be provided to the University of Kentucky by the Consultant and/or the Contractor.

### G. REQUIRED Design Criteria

The Consultant shall use and/or obtain and use the following in the design of a new elevator installation including elevators in and for

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building renovations and/or additions and/or for elevator modernization and upgrades.

1. Elevators shall be installed in buildings that are two stories and higher. The design shall provide direct service to all floors in the building, including floors where mechanical rooms are located.
2. Elevators shall be given an individual numbering identity. The number shall be the University -digit number followed by an alpha digit assigned to the individual elevator and shown on the construction documents. If the building has only one elevator the number would be XXXX-A; if two elevators the numbers would be XXXX-A and XXXX-B, etc.
3. All elevator design must be done with consideration of and for the existing University of Kentucky elevator maintenance agreements. Copies of the contracts are available from the departments and/or the Purchasing Division.
  - a. The maintenance agreements for different departments may not be identical having area-specific or use-specific deviations.
  - b. At the end of the contractual obligation of any new elevator installation, the new elevator will then be maintained under the service agreements then in existence.
  - c. The maintenance contract for a new elevator installation will be awarded through existing Purchasing Division procedures.
  - d. The Contractor possibly may not be the successful provider of the maintenance service.

### H. PRE-DESIGN ANALYSIS

For each individual project and/or system, the Consultant shall, including but not limited to, provide traffic analysis for all buildings, especially high-rise and/or complex use buildings and identify the type, size, and capacities of proposed elevator(s).

### I. SPECIAL REQUIREMENTS BY UK FIRE MARSHAL

1. When emergency power is provided, the elevator(s) shall be tested under a FULL load on the generator. This would include all emergency lighting and other emergency loads connected to the generator.
2. Fireman's Service shall be tested under emergency power conditions.

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3. When Firemen's Service is provided, the UK Fire Marshal's office shall be consulted as to which floors will become Priority 1 and Priority 2 for emergency return situations.
4. Provide a lockable secure storage box on the Priority 1 floor for the firemen's service key(s). The Consultant shall request storage box keying information from the UK Fire Marshal.

### II. ELEVATOR EQUIPMENT

#### A. TRACTION ELEVATORS

1. Geared traction elevators shall be used for all medium-duty and heavy-duty applications that exceed 45 feet of travel or four stops.
2. Geared traction elevators shall be used in parking ramps regardless of travel or number of stops.
3. Unless specified otherwise, emergency power for one elevator in each group must be provided.
4. Elevator equipment must include hall floor indicators on every level.
5. Controllers:
  - a. Specify Motion Control Engineering (MCE) programmable microprocessor controls (<http://www.mceinc.com>) or those by Virginia Controls, Inc. (<http://www.vacontrols.com>)
  - b. The controller shall be capable of continuous operation in ambient temperatures between 65 degrees F and 90 degrees F.
  - c. Specialized diagnostic devices used to check the operation of the microprocessor and not permanently attached to the controller, shall be provided as part of the contract and shall become university property.
  - d. Diagnostic tools or devices requiring "reloading" or "recharging" by the manufacturer shall not be used on a University of Kentucky project.
6. Car Speed:  
Minimum 200 feet per minute (The Consultant may require and/or propose a higher speed for high-rise or group systems)
7. Rise:  
Any elevator utilizing more than four openings in line, or having abnormally tall floor heights (more than 12 feet), must be reviewed for speed requirements.

#### B. HYDRAULIC ELEVATORS

Note: As the current 2004 code requires a PVC jack casing and oil monitoring, vegetable oil for use in the University of Kentucky

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elevators is not to be specified unless there is a specific requirement for such.

1. Hydraulic passenger elevators shall be used for light-duty applications. They shall be limited to a maximum travel of 45 feet or four stops.
2. Hydraulic freight elevators shall be limited to a maximum travel of 60 feet.
3. Unless specified otherwise, emergency power for one elevator in each group must be provided.
4. Elevator equipment must include hall floor indicators on every level.
5. Controllers:
  - a. Specify only Motion Control Engineering (MCE) Controllers or Virginia Controllers, Inc. (<http://www.vacontrols.com> ).
    - Use MCE's type PHC programmable microprocessor or VAC's MH-3000 controls for single or two car applications.
    - Use MCE's HMC system or VAC's MH series for group (3 or more car) operation applications.
  - b. The controller shall be capable of continuous operation in ambient temperatures between 65 degrees F and 90 degrees F.
  - c. Use MCE's mechanical or solid-state starter system. Manufacturer's starter systems are prohibited.
  - d. Specialized diagnostic devices used to check the operation of the microprocessor not permanently attached to the controller shall be provided as part of the contract, and shall become university property.
  - e. Diagnostic tools or devices requiring "reloading" or "recharging" by the manufacturer shall not be used on a University of Kentucky project.
6. Unless otherwise specified, a battery operated lowering device for emergency use in the event of a main power supply failure is not required.
7. Speeds:
  - a. Typical car speed is 125-150 feet per minute.
  - b. Two-stop applications may successfully use 100-125 fpm.
8. Rise:

Where the building rise is more than 45 feet, or the elevator requires staggered openings on either end of the car, use traction system.
9. Power Units:

Submersible and non-submersible units are acceptable.

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10. Control Valves:
  - a. Elevator Equipment Corporation (EECO) control valves  
www.elevatorequipment.com (1-888-577-33260)
  - b. Maxton Manufacturing Co control valves  
www.maxtonvalve.com (1- (775) 782-1700)
  - c. Vertical Xpress I-2 control valves www.verticalxpress.com (1-866-448-3789)
11. Hydraulic Tank:

Provide internal tank heater for elevators in parking garages, unheated buildings, or where exposed to extremely cold and/or freezing temperatures.

### C. MACHINEROOMLESS ELEVATORS

Machineroomless elevators will be considered for use on a case-by-case basis. Primarily, these should be considered only for low to moderate traffic installations where a cost comparison to other type elevators proves acceptable.

Note: Should this technology be chosen for use in a University of Kentucky building, the Consultant would still be required to design an elevator machine room for the elevator equipment.

### D. HOLELESS ELEVATORS

Holeless elevators will be considered for use on a case-by-case basis; however, these type elevators are discouraged from being installed on the University of Kentucky unless specific requirements dictate such use.

### E. CHAIR AND PLATFORM LIFTS

Chair and platform lifts shall be chosen and approved on a case-by-case basis.

### F. PUSHBUTTON FIXTURES

1. Provide vandal resistant pushbutton fixtures with tamper proof screws as manufactured by:
  - a. Monitor Controls, Inc., Hauppauge, NY  
<http://www.mcontrols.com> (1-877-849-4334 )
  - b. Innovation Industries, Inc. [www.innovationind.com](http://www.innovationind.com)
  - c. GAL Manufacturing Corp. [www.gal.com](http://www.gal.com).
2. Locate digital car position indicators on each floor in the elevator lobby over the door opening, adjacent to the hoist way door entrance, or contained within the hall pushbutton fixture.

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3. Use vandal resistant car direction indicators located on the elevator car to indicate direction of travel and visual arrows for car direction.
4. Provide arrival gongs at each elevator lobby.
5. Provide the Fire Service key switch at the main fire-recall lobby pushbutton.
  - a. Provide a lighted jewel to indicate Fire Service Operation.
  - b. Engrave, etch, or emboss fire service instructions on the fixture cover in accordance with ANSI A17.1a.
  - c. Provide etched, embossed, or engraved Fire Service Signage located on each hall pushbutton cover.
6. Push button designation numbering shall match the architectural room numbering designation i.e. if architectural drawing calls the lowest floor "Ground Floor" the elevator floor designation shall not be "Basement" etc.
7. Surface applied signage is prohibited.

### G. POWER DOOR OPERATOR EQUIPMENT

1. Passenger Elevators  
For passenger elevators, use only door operator equipment that includes drive operator, hangers, locks, closures, etc. as manufactured by GAL manufacturing Corp. ([www.gal.com](http://www.gal.com)) 1-877-425-3538.
  - a. Door operators and related equipment for passenger elevator and freight elevators with bi-parting doors shall be by GAL Corp. model MOVFR with VVVF drive.
    - Use low speed operators up to three-stop elevators.
    - Use high-speed operators at all other locations.
2. Freight Elevators  
Freight elevators having bi-parting horizontal doors, equipment shall be by EMS Group, St. Louis, MO (800-489-4889 or 314-381-0500).

## III. CARS

### A. CAR DESIGN

1. Interiors:
  - a. The car enclosure shall meet the requirements required by ANSI A17 for smoke development and flame spread.
  - b. Car platforms shall be standard manufacturer sizes unless the University specifically requests a non-standard platform size.
  - c. The Contractor shall provide to the Consultant for review, car interior designs, and finish selections.
  - d. Install moving pad hooks in all elevator cars.

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- e. When moving pads are specified, provide a locked fireproof cabinet in the elevator equipment room for hanging storage of the pads.
  - f. When specified, provide moving pads for each elevator.
  - g. Install an ADA compliant handrail at the rear of the car and bump rails on the sidewalls of the car.
  - h. For all medical facilities and/or buildings in which cart usage is anticipated or are to be used, bump rails shall be installed 4 to 6 inches above the floor level.
  - i. Car Flooring:
    - For all medical facilities, flooring shall be terrazzo.
    - Unless otherwise chosen, all other buildings will have water resistant flooring such as vinyl or radial rubber flooring.
  - j. Carpet is prohibited inside of elevator cars.
2. Indicators:
- a. Locate the car digital position indicator over the transom or within the car-operating panel.
  - b. Place the Car Direction Indicators in the car doorframe where they will be visible from the vicinity of the hall pushbutton.
  - c. Every car direction indicator must be visible from the immediate vicinity of the hall pushbutton.
3. Keys and switches:
- a. Provide switches for lights, service or inspection, and Fire Service.
  - b. Provide a two-speed fan switch.
  - c. Provide each car-operating panel with an emergency stop key switch (CPPD specified Best Cylinder with removable core for CPPD and 7-pin Yale with removable core for MPPD)
    - Position the cylinder near the bottom of the pushbuttons with the key removable in either position and with one set of normally closed contacts.
    - Mark the switch with etched, engraved, or embossed “ON” and “OFF.”
  - d. Where special key switches or card readers are used to lock out particular floor and/or functions
    - Wire controls so as not to interfere with Fire Service operation.
    - Provide inactive push buttons for each floor even if a key switch is required.
    - Engrave, etch, or emboss fire service instructions inside the fixture cover in accordance with ANSI A17.1a.

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- e. If special security features are required, locate these keyed functions within the cabinet.
4. Provide each car-operating panel with special language etched, engraved, or embossed pertaining to the posting of the Elevator Permit and the Capacity of the elevator.
5. Two-way communication:
  - a. For campus CPPD:
    - Install a flush-mounted two-way communication device in the elevator car preferably near the bottom of the car-operating panel.
    - The device shall consist of a single pushbutton, automatic dialer with appropriate indicator lights, and all other essential features necessary to comply with ADA.
    - The communication device shall be as manufactured by Ramtec/Ramtel to match the existing UKPPD elevator communication system including remote location indicator and other existing features now in use.
    - The face plate shall have, including but not necessarily limited to:  
EMERGENCY PHONE  
UNIVERSITY OF KENTUCKY  
(include UK logo)
    - Other information and instructions on the faceplate are as provided by the Ramtec/Ramtel communication device.
  - b. For Medical Center MPPD:
    - Install a Quam vandal resistant intercom assembly model no. CIS4/25
    - Provide an 18 gauge twisted pair in conduit from each elevator to the existing Dukane station located in H64 of the University of Kentucky Medical Center. Medical Center Physical Plant Division will provide instructions on routing and other requirements for the wiring.
    - The intercom duty station is to be installed seamlessly into the elevator cabs behind a speaker cutout with a push button to operate the intercom.
    - During the project design, the existing Dukane system needs to be evaluated to ensure that spaces are available in the system for adding the necessary intercoms. If the current system cannot handle the required elevators, the system must be upgraded and expanded to handle the new installations.
    - Signage needs to be installed at the intercom saying:

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IN CASE OF EMERGENCY, PUSH BUTTON TO CALL DISPATCHER.

### IV. PIT, HOISTWAY, AND WELL HOLES

#### A. PIT AND HOISTWAY

1. Pit Access:
  - a. Provide a metal ladder from each pit floor starting 12" above the pit floor and extending to 48" above the lowest landing floor level.
  - b. Locate the ladder at strike jamb side of hoistway when single panel or two speed doors are used.
  - c. Where center opening doors are used, locate the ladder on the nearest sidewall.
2. Sump Pit:
  - a. Provide a sump pit with easily removable sump pump and approved cover below normal pit grade for all elevators.
  - b. Pipe the sump pump discharge into an open gap drain connected to nearest sanitary sewer.
  - c. Furnish the sump pump with integral oil sensor so that pump will not operate if hydraulic fluid is contaminating the water.  
Products are available from SEEWATER, Inc.  
(www.seewaterinc.com) 1-888-733-9283 or (EECO)  
www.elevatorequipment.com (1-888-577-33260).

Note: As the current 2004 code requires a PVC jack casing and oil monitoring system may not be required. However, the use of an oil sensor in the sump should be specifically eliminated only after discussion of the need for any specific installation i.e. how likely is there to be chronic water leakage/seepage into the elevator pit.

  - d. Provide a high-water alarm and connect it to the building's Energy Management System (unless connection is specified to be connected by others).
3. Hoistway Entrances:
  - a. Provide nickel silver or chrome plated cast iron sill plate at entrance threshold as manufactured by Plymouth Engineering Shapes of Hopkinsville, Kentucky [www.plymouth.com/](http://www.plymouth.com/) or

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- approved substitute. Grout sills in place with using a non-shrink, non-metallic grout.
- b. Set entrances in vertical alignment with car openings and aligned with plumbed hoist way lines. Use ¼” clearances around frame and doors as standard. Fill or slush hoist way doorframes.
  - c. Provide dust covers at hoist way entrances that conceal the hoist way door tracks and interlocks. Provide covers no less than the width of the door opening plus 12”. Mount covers securely to the header by use of metal screws with keyhole openings. The cover shall be capable of being removed without need of removing screws entirely.
  - d. Provide sight guards permanently fastened to the hoist way door and of the same color or finish as the hoist way door. There shall be no holes in the guards other than those used to fasten the guard to the door.
  - e. Provide a means of emergency access for each hoist way door as selected by the Owner.
  - f. Provide stainless steel hoistway doors and entrances with number four (grain line) finish. Powder coated or painted finishes may be substituted with approval.
  - g. Provide an approved automatic fire detection system (smoke detector) that will respond to visible or invisible particles of combustion connected to building fire alarm system at elevator lobbies.
  - h. Provide hoistway venting as may be required by the KENTUCKY BUILDING CODE Section 3004.
  - i. Provide car door protective device extending the full height. This device will be designed to sense an obstruction in its path while the doors are closing and automatically cause the car and hoistway door to return to the open position. The doors will remain open until the expiration of a time interval and then close automatically. Device shall be Janus Pana40 Plus 3D.
4. Maintain hoistway temperature between 50 to 90 degrees F.
  5. Piping, conduit, and other Items unrelated to the elevator are prohibited in the hoistway or pit.

### B. FIRE PROTECTION

1. If the building is fully sprinkled, it is required to have sprinklers in the top of the shaft and in the pit.
2. Hoistway exemption allowed by the KBC (2007):  
If the Hoistway is of noncombustible construction (concrete or concrete block) and the car enclosure meets the requirements of ANSI

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A17.1 for smoke development and flame spread, the sprinkler in the top of the shaft may be omitted (also found in NFPA 13 code rule 8.14.5.5). (Always check current codes before applying this exemption.)

3. For fully sprinkled building, the pit shall always be sprinkled. The pit sprinkler shall be a sidewall sprinkler type with down-direction spray not requiring a shunt trip breaker.

### C. WELL HOLES, CASINGS & CYLINDERS

1. Use steel cased holes for hydraulic applications sized properly for each set of circumstances. Place hydraulic cylinders in the pre-drilled casing and use a laser device to align the cylinder in the presence of the Consultant.
2. Enclose hydraulic cylinders in PVC to prevent corrosion and electrolysis. Cap the bottom of the PVC liner extend it upward to a point higher than the pit floor.
3. Back fill the cylinder with dry sand from the bottom of the cylinder to the pit floor to prevent the bottom of the casing from moving. Provide a minimum of four (4) inches of concrete at the top of the cylinder to finish the pit floor.
4. Fasten top of cylinder so as to prevent unit from moving during operation. The elevator shall operate without the piston rubbing, bumping or otherwise contacting the inside wall of the cylinder during operation.

## V. ELEVATOR EQUIPMENT ROOMS

### A. ELEVATOR EQUIPMENT ROOM

1. Design:
  - a. Integrate the elevator penthouses into the overall building architectural design to create a unified and compatible appearance from the exterior.
  - b. Provide approved stairs for access to elevator equipment rooms. Ship's ladders and alternating tread stairs are prohibited.
  - c. Equipment, piping, conduit, etc. unrelated to the elevator are prohibited in the elevator equipment room.
2. Fire Protection:
  - a. If the building is fully sprinkled, it is required to have sprinklers in the equipment room.
  - b. Equipment Room Exemption allowed by the KBC (2007): If the equipment room is two-hour rated, the sprinklers may be

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- omitted. (Always check current codes before applying this exemption.)
- c. Provide fire-resistant labeled door with closer and Storeroom function mortise lockset.
  - d. Provide a fire extinguisher in machine room mounted on the wall near the entrance door. A cabinet for the fire extinguisher is not required.
  - e. Provide an approved automatic fire detection system (smoke detector) that will respond to visible or invisible particles of combustion connected to building fire alarm system.
3. Climate Control:
- a. Maintain temperature between 50 to 90 degrees F.
  - b. Check all codes and Owner requirements to determine if emergency power is required or provided to elevators and for machine room venting.
4. Data/Communications:
- a. Furnish data line terminated in a telephone jack in each elevator equipment room (only if specified and/or required on the specific project).
  - b. Furnish two (2) telephone lines in each elevator equipment room. One line is to be used for the emergency call system and one line is to be used for a remote monitoring system. The University will be responsible for activation of the lines.
5. Sound Control:  
If elevator equipment room is adjacent to an occupied space, provide drop seal and sound gaskets on door with sound batten insulation in walls. The Consultant is responsible for determining if additional sound absorbing materials are needed inside of the elevator equipment room to meet program requirements.
6. Room Security:
- CPPD – Key to building mechanical room system.
  - MPPD – Install card reader to match building system.
  - Other Departments – Key to department instructions.

### B. WIRING AND LIGHTING

1. Elevator Equipment Room:
  - a. For each elevator, provide properly sized main line disconnect mounted on the wall adjacent to machine room door.
  - b. Provide a separate panel board located in the machine room near the main line disconnect.
    - This panel board may be used for other loads related to the elevator and elevator machine room.

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- For each 110/120VAC car light system, provide a lockable circuit breaker in the panel board.
- c. Use only rigid conduit in the elevator machine room for main power equipment.
  - EMT may be used for low-voltage control wiring.
  - Provide adequate machine room fluorescent lighting, especially at controller and around equipment.
  - Locate lighting to avoid conflict with installation of equipment such as motors and cables.
- d. When building emergency power is not available for the elevator car power system (lighting, duplex outlets, and fan), provide emergency backup battery lighting systems for cab interior fluorescent lighting as manufactured by the BODINE Company, Model B30 ([www.bodine.com](http://www.bodine.com)) 1-800-223-5728. An emergency light in the car-operating panel is not required.
- e. Provide a hoist way lighting system for every elevator as follows:
  - Provide a light at the top of the hoist way.
  - Provide 4-way light switch at the elevator pit, at the top of the hoist way, and in the elevator equipment room. In the elevator equipment room, use a pilot light or lighted toggle to indicate an “on” circuit.
  - Locate Pit light switch next to pit ladder and located 42” above lobby floor level.
- f. Provide 13W florescent lamps with integral ballasts and porcelain fixture with cover.
- g. Provide minimum one GFI duplex receptacle in each elevator pit and in the elevator equipment room.
- h. Provide non-GFI single receptacle for sump.

### VI. MANUFACTURERS, SUPPLIERS, AND INSTALLERS

#### A. The following Elevator Manufacturing Companies are approved:

1. CemcoLift, Inc.  
(Manufacturer of Traction and Hydraulic Elevators)
  - a. 2801 Township Line Road
  - b. Hatfield, PA 19440-0500
  - c. Toll Free: (800) 962-3626
  - d. Phone: (215) 799-2900
  - e. Fax: (215) 703-0358

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- f. [www.cemcolift.com](http://www.cemcolift.com)
  - 2. Canton Elevator Incorporated  
(Manufacturer of Hydraulic Elevators only)
    - a. 647 Third Street N.W.
    - b. Massillon, Ohio 44647
    - c. Ph. (330) 833-3600
    - d. Fax (330) 833-0229
    - e. [www.cantonelevator.com](http://www.cantonelevator.com)
  - 3. ThyssenKrupp Elevator Company  
(Manufacturer of Traction and Hydraulic Elevators)
    - a. 7217 East 87th Street, 46256
    - b. Indianapolis, IN
    - c. Ph. (317) 595-1125
    - d. [www.thyssenkruppelevator.com](http://www.thyssenkruppelevator.com)
  - 4. Kone, Inc.  
(Manufacturer of Traction and Hydraulic Elevators)
    - a. 5201 Park Emerson Dr., Suite E,
    - b. Indianapolis, IN 46203
    - c. Ph. (317) 788-0061
    - d. [www.kone.com](http://www.kone.com)
  - 5. Schindler Elevator Corporation  
(Manufacturer of Traction and Hydraulic Elevators)
    - a. 1761 North Sherman Drive, Suite E,
    - b. Indianapolis, IN 46218
    - c. Ph. (317)486-0906
    - d. [www.us.schindler.com](http://www.us.schindler.com)
  - 6. Global-Tardif Elevator Manufacturing Group Inc.
    - a. 120 De Naples Saint-Augustin-de-Desmaures
    - b. Quebec, Canada G3A 2Y2
    - c. Ph: (800) 661-6316 Fax: (418) 878-1595
    - d. [www.globaltardif.com](http://www.globaltardif.com)
- B. The following Elevator Installing Companies may supply and install elevator equipment purchased from third party manufacturers but must meet the requirements of this standard and be approved by the University Project manager.

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1. DC Elevator  
(Supplier and installer of Traction and Hydraulic Elevators)
  - a. 124 Venture Court- Suite 1
  - b. Lexington, KY 40511
  - c. Ph. (859) 254-8224
  - d. Fax (859) 231-8740
  
2. The Murphy Elevator Co., Inc.  
(Supplier and installer of Traction and Hydraulic Elevators)
  - a. 128 East Main Street,
  - b. Louisville, KY 40202
  - c. PH. (800)321-1527
  - d. [www.murphyelevator.com](http://www.murphyelevator.com)
  
3. Oracle Elevator Company  
(Supplier and installer of Traction and Hydraulic Elevators)
  - a. 4523 Knopp Avenue,
  - b. Louisville, KY 40213
  - c. PH. (502)363-9300
  - d. [www.oracleelevator.com](http://www.oracleelevator.com)

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4. Steffen Elevator Company  
(Supplier and installer of Traction and Hydraulic Elevators)
  - a. 4184 Mary Ingles Hwy
  - b. Highland Heights, KY 41076
  - c. PH. (859)781-9531

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For inquiries, questions, and/or interpretations, call:  
Work Control Center  
Physical Plant Division  
859-257-3844

Refer to Section I. General; Paragraph A. Updates and Changes  
To present corrections and/or request changes to this standard.