

**14 2000 – Elevators**

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**Last Update: July 1, 2009**

**A. University Contact:**

1. Through the PM you should contact the Elevator Department at Purdue University as early in the design phase as possible to discuss general elevator control systems.

**B. Passenger Elevators:**

1. The number of elevators provided should be based upon occupant load, building height, and standard elevator design criteria as well as comprehensive feedback from the end users. Placement should take into consideration pedestrian entries and relationship to public spaces.
2. At least one elevator must be large enough to meet ADA and building requirements, at a minimum this involves accommodation of a 24-inch by 76-inch stretcher in the prone position. All appropriate barrier free standards and accessibility codes must be satisfied.

**C. Hydraulic Elevators:**

1. Jacks shall be in ground direct acting unless otherwise specified. Hydraulic jacks shall be installed in rigid PVC liners and the annular space between the jack and liner shall have sand for "pinning" five feet up from the bottom of the liner.
2. Means for monitoring oil loss must be approved in writing by Owner.
3. All hydraulic units will be provided with battery lowering.
4. In general, hydraulic applications will be 150 FPM and have roller guides.
5. All hydraulic units shall have electronic "soft start" feature.
6. Use of submersible pump units must be approved by Owner in writing.

**D. Traction Elevators:**

1. Elevators will be roped one to one unless approved in writing by Owner.
2. Traction units will be closed loop VVVF drive design with non-proprietary microprocessor logic controls.
3. All traction applications will be at least 200 FPM.
4. All traction installations will employ roller guides.
5. All traction applications will have ascending car/ unintended movement safeties and hoistway access capability.

**E. Guide Rails:**

1. All guide rails will be planed steel "T" type rails.

**F. Door Operators:**

1. All horizontal door operators will be closed loop and non-proprietary.

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2. All horizontal doors will employ removable door hangers and non-integral door tracks (no formed steel door tracks), with at least two door gibs per panel if phenolic gibs are not provided.
3. Vertical doors will be either Pelle or Courion.

G. Hoistway Entrances:

1. All capacities 3500 lb. or above shall employ sill angle supports to be approved by Owner on submittals.

H. Service/Maintenance Tools and Documents:

1. All hydraulic and traction operating system logic and subsystem logic (doors operators/positioning systems/rope grips, etc...) shall be non-proprietary and all diagnostic tools and software required for the installation, set-up, repair, maintenance and service shall be provided to the Owner as well as training on any systems not currently maintained by University personnel. These will be of the same capability as the tools utilized by the installers adjustment technician.
2. A minimum of two sets of schematics, two service/maintenance manuals, pull charts and set-up templates shall be provided to Owner as well as any tools and manuals relative to peripheral sub-systems.

I. Testing and Acceptance:

1. Notice must be given to Purdue representatives one week in advance of the acceptance test so Fire and Equipment, Elevator, and Construction personnel can be available during the test.
2. The installation will be covered with monthly inspections under warranty with the first category 1 (annual test) being included. Monthly service tickets must be signed by Owner's representative.
3. Response to an outage will be within 24 hours and be included in warranty.

J. Service Elevator:

1. An additional passenger elevator that will also serve as a service elevator should service all floors.
2. This combination elevator may be adjacent to other building elevators and/or near the service receiving door as best fits the final plan.

Inside clear dimensions of the combination elevator should be 6' wide by 8' deep, minimum.

K. Emergency Communication:

1. Elevator phones shall be compatible, and programmed to operate with Purdue's "ring down" system.

L. Visible Penthouses:

1. Where elevator penthouses are visible from the street or surrounding area, they should be an integral part of the architecture and aesthetically pleasing.

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M. Sump Pumps:

1. Elevator pits are to have a sump pit with code compliant cover.