

## **DIVISION 14      CONVEYING EQUIPMENT**

### **Section 14 00 00      Conveying Equipment - General**

- 1 Information relates to technical requirements for dumbwaiters, elevators, escalators, lifts, hoists and cranes, scaffolding, and the like.
- 2 All projects which include elevator controls upgrades or installation of a new elevator must provide for the requirement that all systems specified and installed are to be non-proprietary in function and that the warranty work and system access codes are to be turned over to a provincial wide contractor in charge of elevator maintenance at the time of the expiration of the Performance Assurance.
- 3 Warranty
  - 3.1 Ensure that the project manual specifies requirement of a full warranty covering materials, performance and workmanship for elevators and escalators for a period of one (1) year from the date of substantial performance.
  - 3.2 An extended warranty beyond the first year may be included according to the specific project requirements.
- 4 Maintenance
  - 4.1 Provide for a maintenance and service agreement for the equipment which meets the requirements of the warranty, including but not limited to routine maintenance, parts, labour, and 24 hour call back services, for a period of one (1) year from the date of substantial performance of the work.

### **Section 14 20 00      Elevators**

- 1 For buildings, or additions, of more than one storey discuss need for a minimum of one, full size, elevator. Discuss need for key operation, supervision, performance, accessories, and usage with Department's project coordinator.
  - 1.1. Hydraulic Elevators
    - 1.1.1. Reference Standards:
      - 1.1.1.1. Do hydraulic elevator work to CSA B44 PACKAGE, 2002, local codes and regulations except where specified otherwise.
    - 1.1.2. Provide one elevator in each educational facility of more than one storey. Ensure the elevator is:

- 1.1.2.1. Full size elevator and key operated.
- 1.1.2.2. Located ensuring ease of supervision and community use, and proximity and clear visibility from the main entrance and administration offices and form an integral element of the main lobby.
- 1.1.2.3. Elevator must be a full size elevator not a wheelchair lift.
- 1.1.2.4. Description of Systems
  - 1.1.2.4.1. Provide one holeless hydraulic passenger elevator as follows:
    - 1.1.2.4.1.1. Car inside sized to accommodate stretcher
    - 1.1.2.4.1.2. Rated load: 2500 lbs. exclusive of complete car and plunger
    - 1.1.2.4.1.3. Travel: as required
    - 1.1.2.4.1.4. Openings: as required
    - 1.1.2.4.1.5. Speed: 100 f.p.m. in up and down direction with rated load and with maximum speed. Variation +/- 5% no load to rated load.
- 1.1.2.5 Two-Stop Automatic Operation
  - 1.1.2.5.1 Include two-stop automatic elevator operation, as follows:
    - 1.1.2.5.1.1 Provide flush mounted operating device in car with stainless steel faceplate containing push buttons marked to correspond with two landings served, emergency stop switch, light switch arranged for restricted operation, door open button and alarm button.
    - 1.1.2.5.1.2 Arrange operation so that momentary pressure of car button for opposite terminal dispatches car to the terminal.
    - 1.1.2.5.1.3 Allow call registered by momentary pressure landing buttons at any time to remain registered until car stops in response to that call at that landing.
    - 1.1.2.5.1.4 If hoistway door is not opened within short interval after car has stopped at terminal, arrange

car to respond to call from other terminal.

#### 1.1.2.6 Security Operation

1.1.2.6.1 Include a security feature to operate as follows:

1.1.2.6.1.1 Include in each hall pushbutton station a spring return keyed switch and a normal pushbutton.

1.1.2.6.1.2 At the upper floor include a two position keyed switch (keyed differently) with the key removable in the "On" and "Off" position.

1.1.2.6.1.3 When the system is turned "On" it will be necessary at either floor to use the spring return key to place a hall call. When the system is turned "Off" the hall push buttons will operate normally; without requiring the use of the key switches.

#### 1.1.2.7 Car Stall Protective Circuit

1.1.2.7.1 Automatically return car to bottom landing and open power operated doors if car should stall as result of relay failure, valve failure or low oil in system while ascending. Restore service by opening and reclosing main line switch.

#### 1.1.2.8 Emergency Operation

1.1.2.8.1 Include means to automatically return the elevator to the lowest landing upon failure of normal power supply. Include door operation.

#### 1.1.2.9 Two-Way Leveling

1.1.2.9.1 Include automatic two-way Leveling device. Approach landing stops at reduced speed from either direction of travel.

1.1.2.9.2 Level with accuracy of 1/4" under varying load conditions.

#### 1.1.2.10 Performance

1.1.2.10.1 Design and adjust equipment as follows:

1.1.2.10.1.1 Provide smooth acceleration and deceleration of car without perceptible steps so adjusted as not to cause passenger discomfort.

1.1.2.11 Use by persons with disabilities

1.1.2.11.1 Comply with CSA B44 PACKAGE, 2002, CSA B651-18, and the following:

1.1.2.11.1.1 Locate upper most button in elevator cab control panel and centre-line of telephone instrument not more than 4'-6" above floor level.

1.1.2.11.1.2 Furnish 2" wide x 1/4" thick solid stainless steel handrails on the side and rear walls of car with ends returned close to panels.

1.1.2.11.1.3 Sound audible soft-toned signal in car when car is stopping at a floor.

1.1.2.11.1.4 Provide car riding lanterns with gongs which sound once for "up" stops and twice for "down" stops.

1.1.2.11.1.5 Provide Arabic numerals 5/8" in height raised 1/32" immediately to left of floor buttons.

1.1.2.12 Components

1.1.2.12.1 Use major elevator components from standard product line of one manufacturer unless otherwise approved.

1.1.2.13 Emergency Lighting

1.1.2.13.1 Include emergency lighting in car as follows:

1.1.2.13.1.1 Use battery operated emergency lighting equipment, to CSA C22.2 No. 141-15, to provide general illumination and 10 lx minimum illumination in car at operating panels and telephone cabinet for four hours minimum.

1.1.2.13.1.2 Include means for convenient manual operation and testing of each unit from within car.

1.1.2.13.1.3 Include means of containing any leakage or spillage of electrolyte.

#### 1.1.2.14 Passenger Car Enclosure

- 1.1.2.14.1 Include overall fluorescent ceiling lighting using rapid start, high power factor ballasts, sound rated A, with plastic diffuse panels supported on baked enamel hung type ceiling frame. Design for light intensity measured 2'-6" above floor of 215 lx maximum. Totally enclose and conceal wiring and ballasts from view within the car and finish ceiling cavity white.
- 1.1.2.14.2 Fabricate front return panels, soffit and entrance columns of integral stainless steel.
- 1.1.2.14.3 Provide pad hooks.
- 1.1.2.14.4 Include telephone hand set and telephone cabinet in car with approved telephone symbol. Identify elevator and name of building on back of cabinet cover. Include telephone wiring within elevator hoistway to machine room.
- 1.1.2.14.5 Fabricate side and rear cab walls of one piece wood core faced in plastic laminate.
- 1.1.2.14.6 Use bolts fitted with washers and lockwashers and fabric separators, if necessary, to assemble and guarantee entire structure to operate entirely free from squeaks and metallic sounds.
- 1.1.2.14.7 Provide 7'-4" clear heights under fixed hung car ceiling.
- 1.1.2.14.8 Provide clear car entrance height of 7'-0".
- 1.1.2.14.9 Finish car doors stainless steel.
- 1.1.2.14.10 Furnish stainless steel license holder in elevator car to suit certificate issued by enforcing authority. Design holder with hidden or tamper proof fastening.

#### 1.1.2.15 Door Protective Device

- 1.1.2.15.1 Include door protective device extending full height of clear opening and projecting beyond leading edge of each door panel.
- 1.1.2.15.2 Should this device touch person or object while car door is closing, return car and hoistway doors to open position.
- 1.1.2.15.3 Arrange to retract noiselessly at both limits of travel.

1.1.2.15.4 Design and adjust to cause doors to stop and reopen before doors contact object or person.

#### 1.1.2.16 Light Ray Device

1.1.2.16.1 Include additional door protection by means of an infra-red multi-beam array of up to 50 beams projected across elevator car entrance.

1.1.2.16.2 After stop is made, hold doors open for predetermined adjustable interval, unless closing is initiated sooner by registration of car call.

#### 1.1.2.17 Fire Rated Entrances

1.1.2.17.1 Provide fire protection rated elevator closures, produced under label service program of ULC or other agency acceptable to DFC and authorities having jurisdiction.

1.1.2.17.2 Affix ULC or other acceptable agency label to elevator closures.

#### 1.1.2.18 Field Quality Control

1.1.2.18.1 Perform and meet tests required by CSA B44 PACKAGE, 2002.

1.1.2.18.2 Supply instruments and carry out additional specified tests.

1.1.2.18.3 Furnish test and approval certificates issued by jurisdictional authorities.

1.1.2.18.4 Provide 2 weeks written notice of date and time of tests.

### **Section 14 40 00      Lifts**

#### 1 Stage Access Lift

1.1 Provide a commercial grade, barrier-free lift for stage access.

#### 2 Wheelchair Lifts

2.1 Provide a commercial quality, barrier-free lift, where required in the design and:

2.1.1 Wherever a stage is required in the design, accessible directly from the main

assembly area.

- 2.2 Discuss need for key operation, supervision, performance, accessories, and usage with Department's project coordinator. Refer also to 14 20 00 Elevators.

**END**