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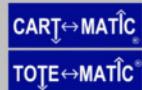
Freight Door Systems



Freight Car Enclosures



IUEC Installation



Material Handling  
Systems



Service Parts



Service Parts



Service Parts



Service Parts



Opening Quality Doors Around The World

## Specifications

### FREIGHT ELEVATOR DOOR SPECIFICATIONS (Standardized )

## 1.00 QUALITY ASSURANCE

- A. Compliance with Regulatory Agencies: All freight elevator door and car gate equipment must comply with the most stringent applicable provisions of the latest edition of the ASME A. 17.1 Safety Code for Elevators and Escalators.
- B. Approved Providers for vertical bi-parting freight elevator doors: Courion and Peelle.

## 2.00 FREIGHT ELEVATOR HOISTWAY DOOR SUMMARY

Provide complete vertical bi-parting freight elevator hoistway doors at each open landing entrance consisting of manufacturer's standard hoistway door system. Provide one (1) vertical slide-up counterweighted car gate at each entrance on the car as required. All freight elevator door and car gate equipment shall meet the NEMA 1, 4, 12 & 13 standards.

Type	Freight Elevator
Capacity (lbs)	
Class	
Travel in Feet	
Number of Stops	
# of Front Openings	
# of Rear Openings	
Platform Size	_____ (wide) x _____ (deep)
Car Clear Inside	_____ (wide) x _____ (deep) _____ x (high)
Hoistway Door Type	Power Operated Vertical Bi-Parting Freight Doors
Hoistway Door Size	_____ (wide) x _____ (high)
Power Supply	208 volt, 3-phase, 60 Hz (minimum)



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### 3.00 FREIGHT ELEVATOR HOISTWAY DOORS AND CAR GATE MATERIALS

**A. Hoistway Doors:** Hoistway doors shall be of the vertical bi-parting (including, when required, bypass bi-parting) type, counterbalanced, and power operated. Doors within the size limitations shall bear Underwriters Laboratories, Inc. 1-1/2 hour Class "B" labels.

1. Hoistway Door panels shall be [choose from the following]:

1. Steel plate style doors with flush room side 12 gauge steel face sheets welded to reinforced structural steel frames.
2. Insulated steel plate style doors with flush room side 12 gauge steel face sheets and a light gauge shaft side sheet, enclosing a layer of insulation.
3. Metal clad style doors consisting of wood cores covered on both sides with 26 gauge, lock seamed galvanized steel sheets.

2. Hoistway Doors shall have the following features:

- a. Door panels shall be connected to each other with suitable roller or leaf chain running over ball-bearing sheaves.
- b. Hoistway Doors shall have one (1) 4" X 10" (102mm X 254mm) vision panel.
- c. The lower edge of the upper hoistway door panel shall have a flexible, non-crushing, non-shearing, fire resistant astragal to provide a space of not less than 3/4" (18mm) between rigid members of the closed panels.
- d. The upper edge of the lower hoistway door panel shall have a reinforced trucking bar designed to meet code (A17.1) requirements for the capacity and loading class specified for the freight elevator.
- e. Hoistway Door guides shall be of heavy formed steel.
- f. Hoistway Door panels shall be furnished with one web strap for emergency manual operation.
- g. Hoistway Door panels shall have adjustable, low friction, replaceable guide shoes.
- h. Hoistway Door panels shall be furnished with one (1) coat of factory standard primer.



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- i. Hoistway Door panels shall be power operated by two (2) low profile, single speed electric motors and operators mounted on either side of the hoistway.
- j. A hinged fire lintel shall be provided at the top of the upper panel of each pass-type Hoistway Door.
- k. Automatic stay open devices that ensure that the door panels stay in the full open position shall be a standard feature on all door panels that are ten feet (10') or wider.
- l. All hoistway door operating mechanisms shall be located entirely within the elevator shaft.

**B. Interlocks and Unlocking Devices.** Each Hoistway Door shall be equipped with a positive interlock that is approved and labeled. The interlock shall prevent operation of the elevator unless all Hoistway doors are closed and locked, and shall maintain the Hoistway Doors in their closed and locked position while the elevator is away from the landing. A power operated retiring cam shall be provided for each line of interlocks.

Hoistway Door unlocking devices shall be provided at all landings to permit access to the hoistway. All unlocking devices shall be actuated by a pull chain under a lockable stainless steel cover.

**C. Car Gates.** Car gates shall be of the vertical sliding type, counterbalanced and power operated. Gates shall be constructed of not less than #13 gauge steel wire mesh and supported by an adequately braced steel frame. Gate shall be guided on steel tracks and the counterweights shall be enclosed. Car gates shall include the following features:

- 1. Car gate mesh shall be of not less than .13" (3.0mm) diameter high carbon steel wire, crimped in both directions in a 1-1/2" (40mm) pattern. A 3/8" (9mm) pattern may be substituted when required.
- 2. Car gates shall be guided in steel rails and shall have adjustable, low friction, replaceable, guide shoes.
- 3. Car gates shall be provided with an labeled electric gate contact. Such electric contact shall prevent operation of the elevator unless the car gate is closed.
- 4. Car gates shall be provided with one coat of standard factory gray primer.
- 5. Each car gate shall be power operated.
- 6. Car gate shall be equipped with a non-contact infrared reopening device which will cause the hoistway doors and car gate to return to the full open position should an object or person come within the zone of detection. The zone of protection shall be from 1-1/2" to 6'-0" above the floor



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and shall cover the complete width of the car gate. Once the hoistway doors and the car gate have returned to the full open position after encountering such obstruction, the car gate can be closed by first releasing and then reapplying continuous pressure to the "Door Close" button. In addition, the car gate shall be provided with a safety edge device to cause instant reopening of the hoistway doors and car gate should contact be made with an obstruction during the closing cycle.

**D. Door Controller.** A microprocessor based Door Controller shall be furnished to control the motion of the freight doors and car gate. Door Controller shall be factory wired for interconnection to elevator controller. Such interconnection wiring shall terminate into a female receptacle insert with single level panel-mount housing and dust cover. Freight elevator door manufacturer shall supply the necessary interconnection cable with male plugs and top-entry hood. The freight elevator door manufacturer shall coordinate interconnection hardware and wiring with the elevator control manufacturer to insure proper fit and operation between the two controls. Controller shall be mounted within the machine room adjacent to the elevator.

The following additional operations shall be included with the Door Controller as available options: (1) Automatic Time Closing that allows the Hoistway Doors and Car Gates to close after an adjustable period of time; and (2) Fire Service "Phase I" emergency recall, and "Phase II" fireman's override in accordance with applicable code and as further described in the latest edition of the ASME A17.1 Code.

## 4.00 FREIGHT DOOR AND CAR GATE OPERATIONS

A. The Freight elevator door system shall be designed so that the hoistway doors and car gates can open automatically as the car levels at a floor, or by momentary pressure on the "Door Open" button and continuous pressure on the "Door Close" button. Hoistway Doors and Car Gates should reopen automatically if not fully closed to the full limit switch operation.

B. The system shall provide for Sequence Operation so that the hoistway doors open at least two-thirds of their travel before the car gate begins to open, and car gates close at least two-thirds of their travel before the hoistway doors begin to close. Before the start of the Car Gate and Hoistway Doors closing cycle a warning buzzer should provide an audible warning. The audible warning should start at least five (5) seconds before the car gate begins to close. The audible warning should be distinctly audible as a warning over the ambient noise.

C. The power operator and electric controls shall be designed to prevent electrical overload should an obstruction prevent the hoistway doors or car gate from moving with power applied. After removing the obstruction, the equipment must be capable of being returned to service immediately.

D. The system shall include labeled electric switches which are capable of controlling door and gate motor speed for consistent smooth door and gate opening and closing.



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- E. After the car stops at a landing, a hall time relay shall render the car inoperative by all hall call buttons for a predetermined (adjustable) amount of time.
- F. Momentary pressure on a hall call button when the elevator is parked at another landing with the doors open will cause a bell located in the car to ring, indicating that the elevator doors should be closed so that the call can be answered.
- G. Emergency Battery Lowering: Elevators shall be equipped with battery operated system which will, in the event of a power failure, loss of phase, or similar mishap in the power supply, automatically lower the car to the lowest landing and then shut the elevator down. The hoistway doors and the car gate must be opened manually either from within the car without the use of a key or tool of any kind, or from without using code required keys. The elevator can only be restarted by turning the mainline power off and then back on after correcting the cause of the power failure
- H. Emergency recall and override: Elevators shall be equipped with "Phase I" emergency recall, and "Phase II" fireman's override in accordance with applicable code and as further described in the latest edition of the ASME A17.1 Code.
- I. The hoistway door and car gate operators shall be so arranged that in case of interruption or failure of electric power from any cause, the doors can be readily operated by hand from within the car. Emergency devices and keys for opening the doors from the landing shall be provided as required by applicable codes.
- J. All limit switches, gate switches, and Interlocks shall have modular, enclosed contacts, which have substantial, visible follow-up wiping action.

## **5.00 FREIGHT ELEVATOR CAR ENCLOSURES**

- A. The car wainscot shall be of not less than #14 gauge sheet steel, properly braced and reinforced. It shall be practically flush on the inside, securely and rigidly fastened.
- B. The car top shall be of not less than #12 gauge sheet steel, so designed as to be capable of sustaining a load of 300 pounds on any 2' square area. A hinged emergency exit with an emergency exit contact shall be provided in the car top.
- C. All exposed surfaces on Car Enclosure (except for the car operating station) shall be air dry enamel primer.



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D. Provide fluorescent light fixtures recessed into the car top and provided with suitable guards to prevent damage from handling of cargo, but which are easily removed to provide access to the lamps and ballasts.

## 6.00 RELATED WORK BY OTHERS

**A. Hoistway and Pit** – Hoistway and Pit shall be clear, plumb, substantially flush hoistway with variations not to exceed 1" at any point. Hoistway walls must not project beyond the sills and frames on the shaft side.

**B. Sills and Frames – General:** Shaft side of frames and sills must be in alignment and flush and plumb with the openings above and below. Steel entrance frames must be constructed of 6" (1.83m) or larger standard structural channels. Jambs must be a minimum of 3/16" (5 mm) thick with a 2-1/4" (58 mm) shaft side flange. Sills must be level to 1/8" (3.2 mm) per 8'-0" (2440 mm) of opening width. Head and jamb sections shall be field welded or bolted together to form one-piece units. Jamb sections shall extend from floor slab to underside of structure above and shall be securely fastened to building structure prior to construction of the hoistway walls. Frames shall be provided with air dried enamel primer suitable for application of finish paint by Owner. Hoistway door sills shall be constructed of hot rolled structural steel angles as detailed and shown on the general construction drawings. Sill angles shall be securely anchored to the building floor. Entrances shall bear 1-1/2 hour UL label.

**C. Electrical Supply.** Electrical supply of 208 volt, 3-phase, 60 Hz shall be furnished by others to the door controller for power operated doors. If necessary, transformer shall be furnished by Freight Elevator Door Manufacturer.

**D. Finish Paint.** Finish paint will be furnished by others after the elevator has be completely installed.

## 7.00 ELEVATOR CONTROL (additional language for factory wired interconnection)

Elevator Control shall be factory wired for interconnection with freight elevator door controller. Such interconnection wiring shall terminate into a female receptacle insert with single level panel-mount housing and dust cover. The elevator control manufacturer shall coordinate the exact interconnection hardware and wiring with the elevator door manufacturer to insure proper fit and operation between the two controls.



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